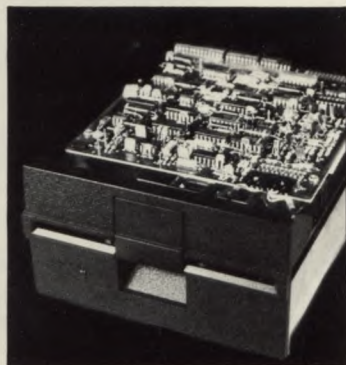
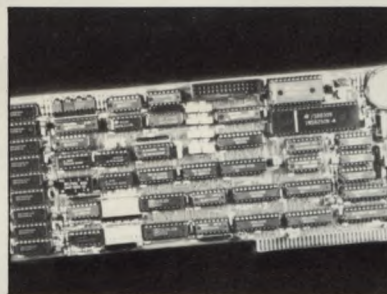


**Micro
Match
3.2**

**Summer
1983
\$2.00**

Catalog ***& Buyers Guide*** ***for the IBM Personal Computer User***



Hardware Software Accessories

HELLO!

Well, it's finally here! This is the 1983 Summer Catalog of products for the IBM Personal Computer. This new catalog has been expanded to include the most popular hardware, software and support products for your PC. We've also included product guides that will help you select the best product for your application. Whether your use is business, personal, educational or just plain fun, you'll find that Micro Match has the products you need.

Thanks to more than a thousand valued customers, Micro Match has become the number 1 name in catalog sales for IBM PC peripherals. We've done this by offering a wide range of quality products at

competitive prices. And we support all our products with complete service and the best technical advice you can find in the USA! That's why Computerland, Micro Age, and even IBM are Micro Match customers.

MICRO MATCH — WE'RE THE ONE!!

Micro Match also stands behind our products. Any hardware product purchased from Micro Match can be returned for a full refund if it is returned within 14 days of receipt (see exceptions below). It doesn't matter what the reason is — even if you don't like the color — just return the product to Micro Match and get a full

refund (including shipping both ways). Free installation and testing of any hardware product is also available, usually while you wait.

Micro Match also services every hardware product we sell. If the product is under warranty, we will either repair the product, replace the product, or refund your purchase price.

This catalog is updated frequently to stay current with the many new products that are becoming available for the IBM Personal Computer. However, new products are constantly being announced so you may not find what you're looking for in the catalog. If you don't see it, give us a call and we'll tell you if we carry it.

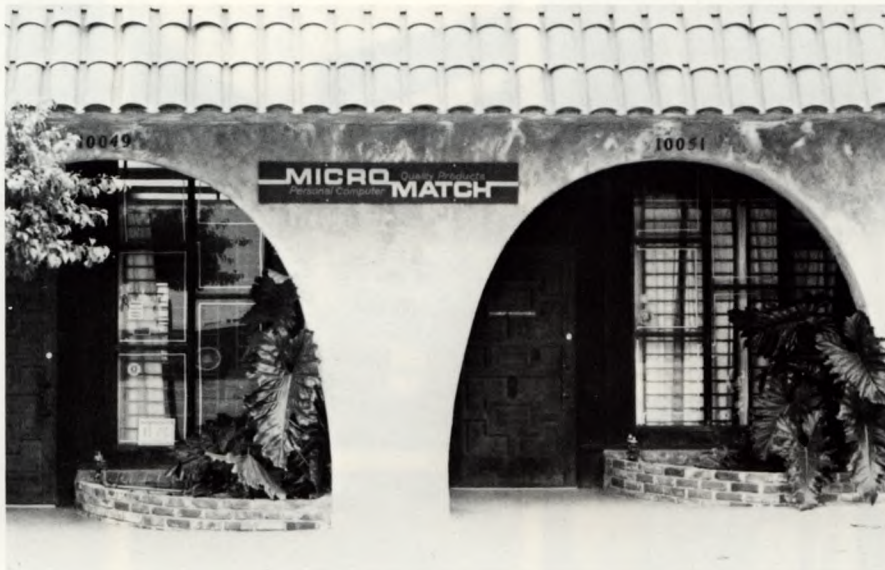
Exceptions to 14 day refund offer: Displays, printers and hard disk systems.

Finding the perfect Micro Match

We've included a Table of Contents on the next page with products shown by function and a complete index in the back with alphabetical listing of all our products for the PC.

We also carry a wide range of products for other Personal Computer systems, but did not have space to list them.

So if you know what you want for your PC, or need advice, give us a call — We're here to help!!!



MICRO MATCH Quality Products
Personal Computer

10049 Commerce Ave • Tujunga, CA 91042
(213) 352-3253

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SUMMER 1983

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EXPANSION BOARDS FOR YOUR IBM PC

If you're looking for a memory or multifunction board to plug into your IBM PC expansion bus, Micro Match has it! We carry only the highest quality boards with proven reliability and availability (no long waiting for these boards). All of these boards offer combinations of expandable memory, serial ports, parallel ports, clock calendars and joystick ports (games adapters). Some manufacturers include software with their boards. These programs include electronic disks, print spooling, clock/calendar controllers, system utilities and diagnostics.

The use of a multifunction board can save you valuable space in your IBM PC expansion bus. Only 5 slots are available in the IBM PC, so the more functions available on a single card, the more capability you can add without the expense of an expansion chassis. Many of the boards Micro Match offers have piggyback options that increase the number of functions even further. The following paragraphs describe the various board features and how you can use them.

SERIAL PORTS

Serial ports (sometimes called async or RS-232 ports) are used for 3 main functions: sending and receiving data from a modem, talking directly to another computer and sending data to a printer that has a serial port. Most serial ports are programmable so that the data rate (called baud rate) and data characteristics can be set for the task. Some applications may require more than 1 serial port. For example, if you have a serial printer and want to communicate through a modem, you would have to change your cables. If you have 2 serial ports, though, you don't have to change the cables when you change from 1 task to the other. The selection guide will indicate which boards have either 0, 1 or 2 serial port capability.

PARALLEL PORTS

The IBM Dot Matrix Printer (and many other printers) use a parallel port for receiving data from the computer. The parallel port is sometimes referred to as a Centronics compatible port. The parallel ports offered on these boards are identical to the port on the IBM Monochrome Display Adapter. If you are going to use a printer that has a parallel port interface and don't have the IBM Monochrome Display adapter, you'll want to select a board that has a parallel printer port. Or, if you have the IBM Monochrome Display adapter and will be using 2 printers that each require a parallel port, you'll again want to select a board with a parallel printer port.

GAMES ADAPTER

If you're serious about your fun or interested in computer aided design, you'll want to add a joystick or game paddle to your IBM PC. These all require a game port, so check the selection guide to find a board with this feature.

CLOCK/CALENDAR

Every time you turn on the power switch, the IBM PC asks you to enter the time and date. A clock/calendar will handle this operation automatically. The clock/calendars are electronic timekeepers with a battery (much like an electronic wristwatch) that keep track of the time and date.

With the software supplied from the manufacturer, the system will read the time and date from the clock/calendar instead of asking you to type it in.

EXPANSION MEMORY

Now that powerful data handling software is available, the 64 K system board memory is no longer adequate for many jobs. Word processors, spreadsheet programs, data base managers, accounting software and other programs can handle large amounts of data. To make these programs run quickly and efficiently, more than 64 K of memory is required. Many of the boards available from Micro Match offer expansion memory. The amount of memory that you can put on a single board varies from 64 K bytes to 512 K bytes. That's enough for even the most demanding task. You can find the amount of memory for any of our boards in the selection guide.

EXPANDING THE BOARD

If you want to start out small and not restrict your future growth, you should consider a board that can be expanded by you at a later time. Some of the boards can only have the memory expanded by the user while other boards can have the clock/calendar, parallel port or serial port(s) expanded by the user. The board descriptions (following the selection guide) will tell you which manufacturers offer which options.

MULTIFUNCTION BOARD SOFTWARE

A very convenient program that speeds up the computer operation considerably is a ram to disk program. These programs (available with several of the boards) treat a portion of the system memory as a disk drive. You can move frequently used files or programs from the floppy disk drive into the ram-disk drive and when the system uses these files, the access time is blindingly fast. You no longer have to wait for the disk drive to find and transfer the data — it's already in memory. Check the selection guide for the manufacturers that offer this feature and the product descriptions for more details.

Print spooling is another nice program that lets you get more from your IBM PC. Normally, the system is tied up while you are printing data. The only things you can do are to start, stop or abort the printing. If you have print spooling software, however, part of the system memory is used to hold the data being printed. Once the printing is started, the data is fetched from memory and sent to the printer by the print spooling software. This only happens when the printer needs more data, so the rest of the computer is free to use while the printing operation is occurring. Check the selection guide for the manufacturers who offer a print spooling program with their boards.

Clock/calendar software enables you to set the time and date on the clock/calendar (much as you would set your watch) and also enables the system to read the time and date from the clock/calendar when power is turned on (instead of asking you to enter the time and date from the keyboard).

Test software enables you to test various hardware features. These tests will indicate how well various functions are performing and in some cases, will help you find a problem. Check the selection guide and descriptions for more information.

Expansion Boards

Micro Match carries the complete product lines for each of these quality manufacturers:

ABM (AUTOMATED BUSINESS MACHINES)
AST RESEARCH, INCORPORATED
MTI (MEMORY TECHNOLOGIES, INCORPORATED)
PERSYST (PERSONAL SYSTEMS, INCORPORATED)
QUADRAM CORPORATION
SEATTLE COMPUTER, INCORPORATED
STB SYSTEMS
TALL TREE SYSTEMS

Not all products from all manufacturers are described in the catalog, so contact Micro Match for information about products you don't see.

The following chart is designed to assist you in selecting the memory or multifunction board that is just right for your application. To use the chart, first determine which functions you need. Then, simply look down the columns in the table to find the board with the features you need. Finally, check the product descriptions following the table for more information on that board.

In some cases, more than one board might meet your needs. If this happens, use the description section (following the selection chart) to ultimately decide which board is the perfect Micro Match.

MEMORY AND MULTIFUNCTION BOARD SELECTION GUIDE

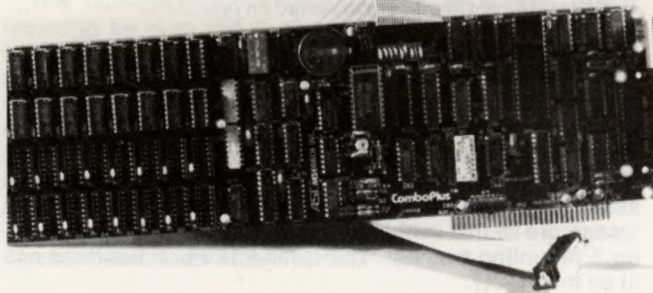
| Manufacturer & Model | Amount of Memory | Serial Ports | Parallel Port | Clock/Calendar | Ram to Disk Software | Print Spooler Software | Warranty (Years) | Special Features |
|----------------------|------------------|--------------|---------------|----------------|----------------------|------------------------|------------------|-----------------------------|
| AST EXPANSION MEMORY | 64-256K | N | N | N | Y | Y | 1 | |
| AST COMBOPLUS | 64-256K | 1 | Y | Y | Y | Y | 1 | |
| AST I/O PLUS II | | 2 | Y | Y | Y | Y | 1 | Game Adapter |
| AST MEGAPLUS | 64-512K | 2 | Y | Y | Y | Y | 1 | |
| AST SIX PAK PLUS | 64-384K | 1 | Y | Y | Y | Y | 1 | Game Adapter |
| QUADRAM QUADBOARD | 64-256K | 1 | Y | Y | Y | N | 1 | |
| QUADRAM QUADBOARD II | 64-256K | 2 | N | Y | Y | N | 1 | |
| QUADRAM QUAD 512+ | 64-512K | 1 | N | N | Y | N | 1 | |
| QUADRAM RAM BOARD | 64-192K | N | N | N | Y | N | 1 | |
| SEATTLE RAM+ | 64-256K | 1 | N | N | Y | Y | 1 | |
| SEATTLE RAM+3 | 64-256K | 1 | Y | Y | Y | Y | 1 | |
| TALL TREE JRAM | 0 or 512K | N | N | N | Y | Y | 1 | Includes JFORMAT & JETDRIVE |

AST RESEARCH

AST COMBO PLUS

The Combo Plus is a multifunction expansion board for the IBM PC that offers 64 to 256 K bytes of parity checked expansion memory, 1 serial port, 1 parallel port and a clock/calendar. SuperDrive and SuperSpool software are included to speed up operations with disk emulation and software print spooling. The minimum configuration is 64 K bytes. Additional memory may be added by the user at any time. All AST products come with a 1 year warranty.

| | |
|--------------------------|----------|
| MC-064SPC (64 K memory) | \$265.00 |
| MC-128SPC (128 K memory) | 320.00 |
| MC-192SPC (192 K memory) | 375.00 |
| MC-256SPC (256 K memory) | 430.00 |



Comboplus from AST Research

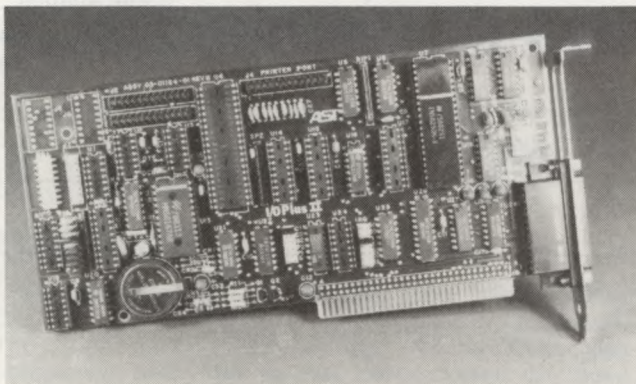
-Expansion Boards-

AST MEGAPLUS BOARD

This board handles up to 8 functions in one PC expansion slot: expansion memory (64-512 K bytes), clock/calendar, 2 IBM PC compatible async ports, parallel printer port, SuperSpool software and SuperDrive software. SuperDrive and SuperSpool are software packages that speed up operations by using part of the memory as a disk drive and part of the memory as a print spooler. The first 256 K bytes is on the board and the second 256 K bytes is on the optional piggyback MegaPak board that plugs into the main board so that only 1 slot is used. The minimum configuration is 64 K bytes of memory with the clock/calendar and 1 serial (async) port. Other options may be added by the user. Software is included to set the battery backed clock/calendar as well as automatically read it into the system when power is applied. The AST Megaplug comes with a 1 year warranty.

| | |
|-----------------------------------|----------|
| MG-064 (64 K, 1 async, clock) | \$265.00 |
| MG-128 (128 K, 1 async, clock) | 320.00 |
| MG-192 (192 K, 1 async, clock) | 375.00 |
| MG-256 (256 K, 1 async, clock) | 430.00 |
| 2nd async port (-S) | \$ 40.00 |
| Parallel printer port (-P) | 40.00 |
| MegaPak (256 K additional memory) | 275.00 |

Example: 192 K with 2 serial, parallel port & clock is part no. MG-192SP. Price is 415.00 + 45.00 + 45.00 = \$505.00

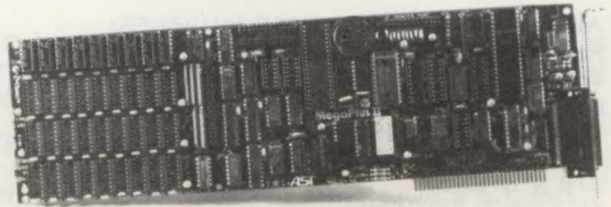


IO plus II Board

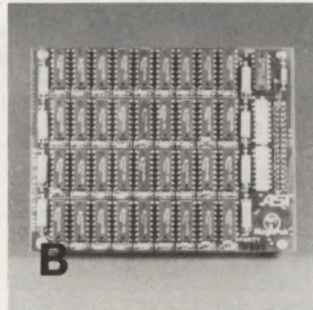
AST I/O PLUS II BOARD

The I/O Plus II board is a multifunction board with no memory. The features available are: clock/calendar, 2 async ports, parallel printer port, dual games adapter, SuperDrive and SuperSpool. The I/O Plus II includes the SuperSpool and SuperDrive software to speed operations and use part of the memory for print spooling. All ports are fully IBM PC compatible. The minimum configuration is 1 async port and the clock/calendar. Other features may be installed by the user at any time. Software is included for setting the time and date on the clock/calendar and also for automatically reading the time and date when power is applied. The SuperDrive and SuperSpool software allow you to use part of memory for print spooling and electronic disk functions. All AST products come with a 1 year warranty.

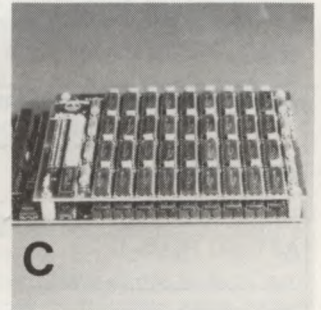
| | |
|----------------------------------|----------|
| I/O PLUS II (1 async, clock/cal) | \$120.00 |
| OPTIONAL 2ND SERIAL PORT | 40.00 |
| OPTIONAL PARALLEL PORT | 40.00 |
| OPTIONAL GAME ADAPTER | 40.00 |



A



B



C

*A. Megaplug B. Megapak
C. Megaplug with Megapak mounted*

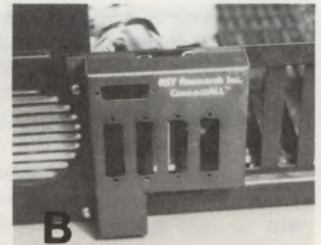
AST EXPANSION MEMORY

The AST expansion memory board is a single slot memory only card that contains from 64 to 256 K bytes of parity checked memory. The board is fully compatible with the IBM PC and allows addressing over the entire 1 megabyte. The SuperDrive and SuperSpool software programs are included. These programs allow you to speed up operations by using memory as a disk drive and also to spool your printing. 1 year warranty.

| | |
|-----------------------|----------|
| MP-064 (64 K memory) | \$195.00 |
| MP-128 (128 K memory) | 275.00 |
| MP-192 (192 K memory) | 345.00 |
| MP-256 (256 K memory) | 425.00 |



A



B

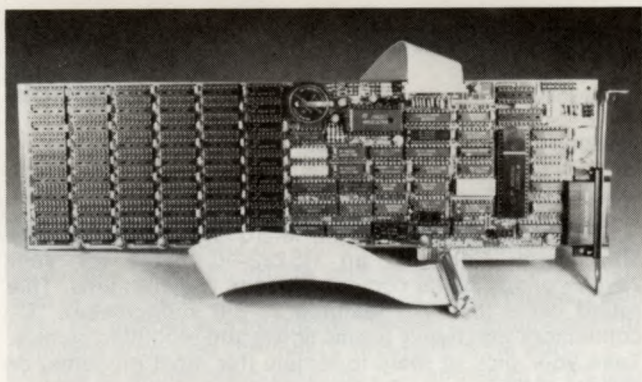
A. ConnectAll B. ConnectAll mounted on rear of PC.

AST CONNECTALL BRACKET

If you have a multifunction board, you should have a ConnectAll bracket to organize your cables at the rear of your IBM PC. The multifunction boards only require 1 slot in the IBM PC expansion slot but, in many cases, a second slot is required just to mount a connector. The ConnectAll takes care of this problem by allowing up to 5 connectors on 1 mounting bracket. The ConnectAll bracket does not fit on the PC-XT.

| | |
|------------------------|---------|
| AST CONNECTALL BRACKET | \$22.50 |
|------------------------|---------|

Expansion Boards

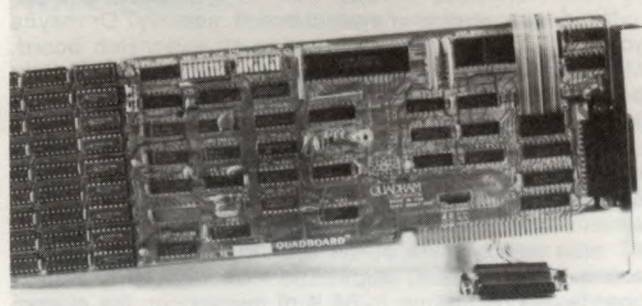


Six Pak Plus from AST Research

AST SIX PAK PLUS

The Six Pak Plus is a multifunction memory board that includes 1 serial port, 1 parallel port, a clock/calendar and a minimum of 64K bytes. The memory is expandable to 384K bytes and an optional games adapter can be included. This single board (no piggybacks, even with all options and 384K) fits in any IBM PC. If you have a 256K System board, a Six Pak Plus will raise your system memory to 640K bytes (the recommended minimum), give you the functions you need most, and use only 1 slot — even in an XT. SuperSpool, SuperDrive and clock/calendar software are included.

| | |
|----------------------------------|---------------|
| SPK-064 (64K) |\$265.00 |
| SPK-128 (128K) |320.00 |
| SPK-192 (192K) |375.00 |
| SPK-256 (256K) |430.00 |
| SPK-320 (320K) |485.00 |
| SPK-384 (384K) |540.00 |
| SPK-000G (Optional game adapter) |40.00 |



Quadboard by Quadram

QUADRAM

QUADRAM QUADBOARD

The Quadboard is a multifunction expansion board featuring 64 K to 256 K of memory, a clock/calendar, a parallel printer port and an async port. All memory is fully socketed for easy user upgrades and includes parity checking. Software is included to set the clock/calendar and read date and time when power is turned on. Diagnostic, utility and Quad-RAM drive software is also included. Only 1 slot is required and all features are fully IBM PC compatible. Quadboard also features a 1 year warranty. The minimum configuration is 64 K bytes, clock/calendar, serial port and parallel port.

| | |
|--------------|---------------|
| 5064 (64 K) |\$349.00 |
| 5256 (256 K) |515.00 |

QUADRAM QUADBOARD II

Quadboard II is another multifunction expansion board from Quadram. This board features user expandable parity checked memory (64-256 K bytes), 2 async (serial ports) and a clock/calendar. All memory is fully socketed for easy user upgrades and software is included to set and automatically read the clock/calendar. Diagnostic, utility and Quad-RAM drive software is also included. Only 1 slot is required and all features are fully IBM PC software and hardware compatible. Quadboard II also features a 1 year warranty. The minimum configuration is 64 K bytes, clock/calendar, and 2 serial ports.

| | |
|--------------|---------------|
| 4064 (64 K) |\$349.00 |
| 4256 (256 K) |515.00 |

QUADRAM QUAD 512+

The Quad 512+ is a memory expansion board with 1 serial port. Up to 512 K bytes of user expandable memory may be installed on the Quad 512+. All memory is parity checked and is fully compatible with all IBM PC software and hardware. The serial port is identical to the IBM serial board. The Quadmaster program is included to provide disk emulation in memory and print spooling. Quad 512+ also features a 1 year warranty.

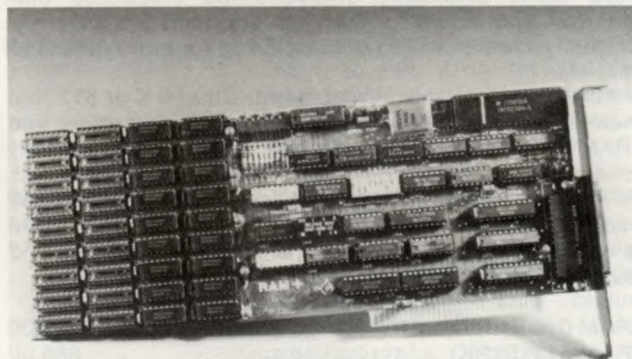
| | |
|--------------|---------------|
| 6064 (64 K) |\$289.00 |
| 6256 (256 K) |475.00 |
| 6512 (512 K) |689.00 |

SEATTLE COMPUTER

SEATTLE COMPUTER RAM+

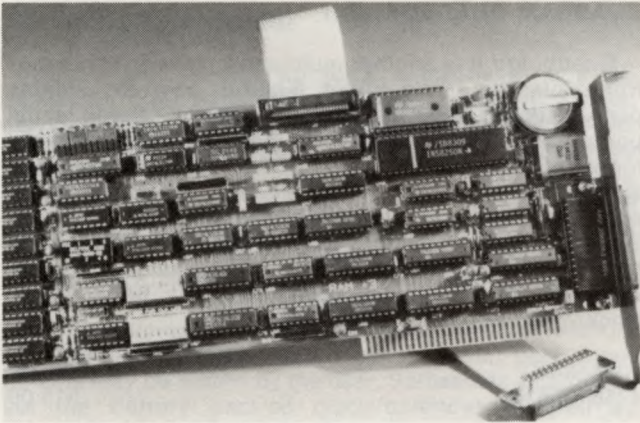
RAM+ is an expansion board offering memory (64-256 K bytes) and 1 serial (async) port. All memory components are socketed for easy user upgrades. The memory is fully compatible with the IBM PC and includes parity checking across every byte. The serial port is programmable for 50 to 19200 baud and may be addressed as COM1 or COM2. The RAM+ also features a 1 year warranty. The minimum configuration is 64 K with 1 serial port. The Seattle FlashDisk software is included to increase system speed by using part of memory as a disk drive. Print spooling software will be included with FlashDisk after May, 1983.

| | |
|-----------------------------------|---------------|
| 64 K RAM+ |\$209.00 |
| 128 K RAM+ |269.00 |
| 192 K RAM+ |329.00 |
| 256 K RAM+ |389.00 |
| MEMORY EXPANSION KIT (64 K bytes) |59.00 |



Seattle RAM+ Board

—Expansion Boards, Cables, RAM Chips—



RAM+3 Board from Seattle Computer

SEATTLE COMPUTER RAM+3

RAM+3 is an expansion board offering memory (64-256 K bytes), 1 serial (async) port, 1 parallel printer port and a clock/calendar. All memory components are socketed for easy user upgrades and all ports are compatible with any IBM PC software or hardware. Every byte of memory includes parity checking. The serial port is programmable from 50 through 19200 baud and may be addressed as COM1 or COM2. The RAM+ also features a 1 year warranty. The minimum configuration is 64 K with both ports and the clock/calendar. The Seattle FlashDisk software is included to increase system speed by using part of memory as a disk drive.

| | |
|-------------------|----------|
| 64K RAM+3 | \$289.00 |
| 128 K RAM+3 | 349.00 |
| 192 K RAM+3 | 409.00 |
| 256 K RAM+3 | 469.00 |

MEMORY EXPANSION KIT (64 K bytes)\$ 59.00

TALL TREE SYSTEMS

TALL TREE SYSTEMS JRAM

JRAM is a memory only board capable of handling 512 K bytes. All memory is socketed and includes parity. JRAM comes with JFORMAT, the high level system configuration software that allows you to customize IBM PC DOS to your needs. You can modify your floppy diskette format to 10 sectors (increases diskette storage by 25%), add a background print spooler, use quad density drives, use 8" drives, and control most Winchester hard disks available. Sophisticated electronic disk features and spooling features are included (see the utilities software section of this catalog for more details on JFORMAT).

The JRAM board is available with either 0 K or 512 K of memory installed. JRAM 0 K has a 30 day warranty and JRAM 512 K has a 1 year warranty. Both versions are fully assembled and tested but the 0 K version is supplied with no memory installed. A special Micro Match version of the board is available with a full 512 K of memory. This JRAM is warrantied for 30 days and all memory (installed and tested by Micro Match) is warrantied for 90 days.

| | |
|---|----------|
| JRAM 0 (0 K) | \$249.00 |
| JRAM 512 (512 K) | 665.00 |
| JRAM 512-MM (512 K w/memory from Micro Match | 595.00 |

CABLES

Looking for IBM PC cables? Micro Match has them. The MM Serial Cable is an RS232—C cable for your asynchronous serial communications requirements. This round cable (not flat) features 25 pin subminiature "D" connectors with heavy plastic shells and mounting screws. Take your pick of male to female (for most modems) or male to male.

The MM Parallel Printer Cable is designed to connect any Centronics compatible printer (the IBM dot matrix, Epson MX series, etc.) to the parallel printer port on your IBM PC. This round (not flat) cable is 6 feet long and includes mounting screws.

The Micro Match Composite Video Cable connects the composite video output from the IBM Color Display Adapter to a composite video monitor. This coaxial cable is available in 3, 6 or 9 foot lengths and includes RCA phono plugs on both ends.

| | |
|---------------------------------------|---------|
| SERIAL (male to female, 3 feet) | \$27.50 |
| SERIAL (male to male, 8 feet) | 24.95 |
| PARALLEL PRINTER (6 feet) | 35.00 |
| COMPOSITE VIDEO (3 feet) | 9.50 |
| COMPOSITE VIDEO (6 feet) | 10.50 |
| COMPOSITE VIDEO (9 feet) | 11.50 |

MEMORY COMPONENTS

Need to expand your system board memory? Or maybe you want to add more memory to an expansion board. Micro Match has the right memory components at the right price. Our memory kits are easy to install and come with a 90 day warranty.

First, determine which memory chips you need. There are two types: one has 16 K bits per chip and the other has 64 K bits per chip. If you have an older IBM PC, then your system board requires 16 K chips. If you have an IBM PC XT or a new version of the IBM PC, then your system board requires 64 K chips. The PCs with 16 K system boards can handle up to 64 K of memory on the system board and the PCs with 64 K system boards can handle up to 256 K of memory. All expansion boards require 64 K memory chips.

Both kits (whether 16 K chips or 64 K chips) come with 9 chips per kit. Eight chips are for the actual memory and 1 is for parity. The components are easy to install and come with a 90 day warranty and the Micro Match 14 day refund policy. The 90 day warranty includes the exclusive Micro Match warranty replacement, any defective components are replaced and the warranty is restarted!

| | |
|--|----------|
| 16 K CHIP KIT (9—16 K chips) | \$20.00 |
| 64 K CHIP KIT (9—64 K chips) | 59.00 |
| Volume purchases of 64 K chips (prepaid only): | |
| 27 64 K chips (\$5.74 ea) | \$155.00 |
| 100 64 K chips (\$5.50 ea) | \$550.00 |
| 1000 64 K chips (\$5.25 ea) | 5250.00 |

Due to price fluctuations on memory components, contact Micro Match for current prices and availability.

MODEMS AND MODEM SOFTWARE

MODEMS

Personal computers have evolved into powerful machines. The IBM PC is capable of running a small business, organizing your personal data, handling large amounts of information and providing hours of enjoyment. One thing you cannot do with the PC, however, is use your telephone to communicate with other computers. That's where a modem comes in: It enables you to connect your IBM PC directly to a telephone line and communicate with similarly equipped computers anywhere in the world.

Like all digital computers, the PC handles all of its data in binary form. That is, all data is stored as either a 1 or a 0. The telephone, however, can only be used for sending and receiving audio information (such as voices or tones). Modems are capable of changing the binary data from your computer into tones the telephone can handle (this is

called modulation) and also converting tones from the telephone into binary data (this is called demodulation). The term MODEM is actually a contraction of these two processes (MODulation and DEModulation).

Whole new worlds of communication open up when you add a modem to your PC. You can exchange information over the telephone with any computer in the world that has a compatible modem. You can also connect to user services such as The Source or Compuserve and have access to hundreds of programs and almost unlimited data, and for investment purposes, you can have access to a variety of stock market data files.

Modems are available with a variety of features. Like any other special device, modems have their own terminology. Micro Match has included the following glossary to help you decipher this terminology and assist in choosing the modem to fit your needs.

MODEM GLOSSARY

| MODEM TERM | DESCRIPTION |
|------------|-------------|
|------------|-------------|

| | |
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| ACOUSTIC COUPLER | An ACOUSTIC COUPLER is a cradle used by some modems to hold the telephone headset. These modems send and receive signals with audible sounds (not electrically). |
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| ANSWER/ORIGINATE | ANSWER and ORIGINATE refer to whether the modem is calling out or receiving an incoming call. |
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| AUDIO MONITOR | An AUDIO MONITOR lets you listen to the signals being sent and received. |
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| AUTO ANSWER | If the modem you select has AUTO ANSWER capability, it can be programmed to answer the phone with no human intervention. |
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| AUTO DIAL | The AUTO DIAL feature means that the modem can dial the telephone lines by itself. Without the DIAL feature, a person has to dial the phone before the modem can send or receive data. |
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| BATCH MODE | BATCH MODE refers to the ability of the communication software to automatically send or receive disk files. This is very useful for transferring large blocks of data without requiring an operator. |
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| CARRIER DETECTOR | When two modems are connected via a telephone line, they send carriers to each other. A modem that has a carrier detector can determine when it is still properly connected and communicating with the other modem. A CARRIER LOSS DETECTOR feature will tell you if you have lost your telephone link. |
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| BAUD RATE | The BAUD RATE of a modem indicates the rate at which data can be exchanged over the telephone lines. The higher the BAUD RATE, the faster data is transferred. |
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| DIRECT CONNECT | DIRECT CONNECT modems plug directly into the telephone jacks. No acoustic coupler is used and all signals are transferred electrically. DIRECT CONNECT modems are highly recommended over ACOUSTIC COUPLED modems. |
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| FULL DUPLEX | A FULL DUPLEX modem is capable of sending and receiving data at the same time. This can save time in some applications. |
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| HALF DUPLEX | HALF DUPLEX modems can either send or receive data, but cannot do both at the same time. |
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| HOOK/UNHOOK | The HOOK/UNHOOK feature is required for automatic telephone operations. These features allow the modem to electrically connect and disconnect from the telephone lines. |
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| PARITY | Modems, like memory, can use parity to help verify that the data sent and received is accurate. Parity can be odd, even, fixed, or not used. |
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| REDIAL | Modems equipped with REDIAL remember the last phone number that was called and can automatically dial the same number again. This feature enables the modem (with appropriate software) to repeatedly call a busy phone number until access is gained. |
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Modems

ROTARY DIAL

Modems with the ROTARY DIAL feature can dial on telephone systems that do not have touch tone capability.

TOUCH TONE DIAL

Modems with TOUCH TONE DIAL capability can dial on telephones that use touch tone.

Before you choose a modem, you should decide which features are right for your needs. The following comments may help you choose.

Acoustic coupler modems have been around for a long time. They are generally less expensive than direct connect modems, but they are sensitive to audio noise. The telephone headset sits in a cradle and the data is transferred with audio tones, so sounds near the modem may cause data errors to occur. Direct connect modems transfer all data electrically and are not affected by audio noise. Direct connect modems are highly recommended over acoustic coupler modems.

Many of the services available to modem users are not free. Sometimes the fees are reduced if you use the service during non-peak hours (usually late at night or early in the morning). One way to enjoy these reduced rate periods is to stay up all night. Another way is to let the system do all the work by itself (with no operator). If you choose to let the system do all the work, your modem will need the following features: HOOK/UNHOOK (to connect and disconnect the phone), AUTO DIAL (to dial the phone number of the service you are using), and DIRECT CONNECT (so the modem can be connected at all times).

Some modems only operate at one BAUD RATE. Others are programmable to select a variety of BAUD RATES. If you know which services you will be using, select a baud rate compatible with that service. If you don't know which baud rate you will need, we recommend you select a modem with programmable baud rates. Also, all modems have a limit to the baud rate at which they will operate. Another thing to consider is that the higher the baud rate, the faster the data can be transferred. For large amounts of data, you should consider a modem with 1200 baud capability.

Some modems plug directly into the IBM PC expansion bus and require no other hardware. Other modems require a serial (async) port and serial cable. Modems that plug into the expansion bus come with support software and modems that are external require communications software.

The following paragraphs describe each of the modems available from Micro Match.

SIGNALMAN MARK VI MODEM

(Anchor Automation)

The Signalman Mark VI is a complete direct connect modem that plugs directly into any expansion slot in your IBM PC and connects directly into any modular telephone (the telephone cable is included). An optional second serial (async) port is also available to save PC slots. The Mark VI has auto dial/answer for pulse or touch tone, automatic originate/answer mode, and carrier loss detection. The baud rate is full duplex and programmable from 0 to 300 baud.

The Mark VI includes software that provides basic telecommunications capability. You can set up for manual or automatic operation (either calling or answering), dial numbers from the keyboard or a menu and transfer files (batch mode). The Mark VI comes with a 1 year warranty.

SIGNALMAN MARK VI\$199.00

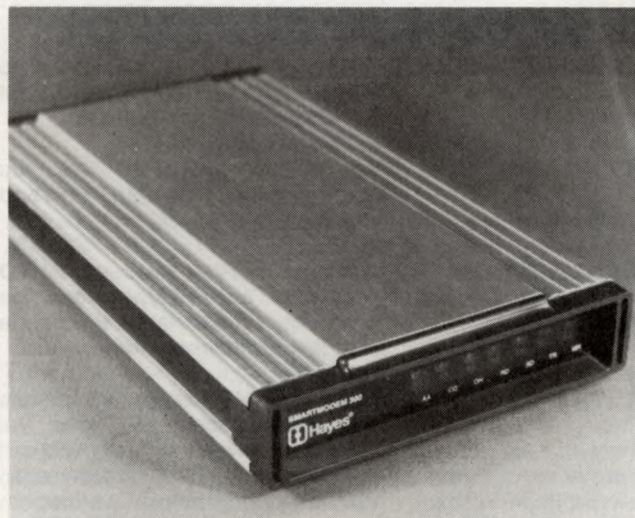
PC-COM-300

(Cactus Technology)

The PC-COM-300 modem is also a complete direct connect modem that fits inside your IBM PC. This package comes with EVERYTHING you need: The modem board, the cable to connect the modem to your telephone lines, and the terminal communications software to run the modem. The modem features auto dial, redial, selectable parity, programmable rate (up to 300 baud), auto answer, hook/unhook controls and answer/originate controls. The internal IBM speaker is used as an audio monitor (no effect on other speaker functions).

The Terminal Software Package contains all the routines to operate the modem. The commands to set the modem features are entered with either text commands or single function keys including automatic output to the printer. Batch receive and batch transmit modes are included so you can receive and send large files directly to and from the disk drives. This program also lets you set the modem to an unattended mode to automatically answer incoming calls. In the terminal mode, you communicate to the modem directly from the keyboard and display. The PC-COM-300 comes with a 1 year warranty.

PC-COM-300\$299.00



Hayes Smartmodem 300

HAYES SMARTMODEM 300 and 1200

The Smartmodem 300 and Smartmodem 1200 are direct connect modems that include auto dial, full or half duplex, originate/answer, and rotary or touch tone operation. Both modems are programmable from 0 to 300 baud and the Smartmodem 1200 includes 1200 baud. The data format is programmable with 7 or 8 data bits, 1 or 2 stop bits, and odd/even/no parity. The cable to connect to your modular telephone is included. A serial port, serial cable and communications software are required. These externally mounted Smartmodems come with a 2 year warranty.

HAYES SMARTMODEM 300\$209.00
HAYES SMARTMODEM 1200\$499.00

HAYES SMARTMODEM 1200B

The Smartmodem 1200B is a complete modem package featuring a direct connect modem and the Hayes Smartcom II program. The Smartmodem 1200B fits inside your IBM PC chassis, occupying 1 slot in the expansion bus (no serial port or serial cable are required). All of the features of the Smartmodem 1200 are included (0-300 or 1200 baud, programmable data format, touch tone or rotary dial, and full or half duplex).

Smartcom II is included with the Smartmodem 1200. This modem control program makes the communication process simple. You simply press a few keys to select what function you want to perform (all functions are displayed on the screen). With Smartcom II, you can transfer files automatically, print files while receiving them, save phone numbers with log-in sequences for each number, create and display files and control all of the modem functions. Smartcom II works with any Hayes Smartmodem (but only with Hayes modems). Smartcom II requires 96 K RAM, DOS 1.0 or 1.1 and an 80 column printer. Smartcom II is also available separately.

HAYES SMARTMODEM 1200B (including Smartcom II)\$435.00
HAYES SMARTCOM II (Modem control program)\$5.00



SMART-CAT 103 and 103/212 MODEMS (Novation)

These modems feature auto dial (either rotary or touch tone), auto answer, direct connect, busy detect (for automatic redial), hook/unhook and automatic redial. The high level command instructions enable you to easily control and operate all of the modem features. The Smart-Cat 103 can be programmed to operate at either 110 or 300 baud while the Smart-Cat 103/212 can be set up for either 300 or 1200 baud.

Both Smart-Cat modems come with a modular telephone cable and are externally mounted. A serial port and communications software are required. The Novation modems also feature a 1 year warranty.

Smart-Cat 103 (110/300 baud)\$175.00
Smart-Cat 103/212 (300/1200 baud)\$59.00

MODEM CABLE

Most modems that do not fit within your IBM PC require a cable to connect the modem to your serial (async) port. The Micro Match serial cable is designed to fill this gap. This is a round cable with 25 pin subminiature "D" type connectors on each end. The modem end has a male connector and the computer end has a female connector (standard modem configuration).

MM SERIAL CABLE M-F (3 feet)\$27.50

• (213) 352-3253



A. Hayes Smartmodem 1200B with Smartcom Software package
B. Cable for external modems.

EXTERNAL MODEM PACKAGES

We've added a cable and software to our popular external modems to give you a complete package. All you need is a serial port to plug it into. Our section on expansion boards (Pages 4 thru 8) will help you find a serial port if you don't already have one in your PC.

SmartCat 103 Package (w/Cable & Data Capture)\$275.00
SmartCat 103/212 Package (w/Cable & Data Capture)\$50.00
Smartmodem 300 Package (w/Cable & Smartcom II)\$299.00
Smartmodem 1200 Package (w/Cable & Smartcom II)\$79.00

MODEM SOFTWARE

A software communications package lets you get the most from your modem. If your modem does not include a software package, then get one of these programs from Micro Match.

These packages will pay for themselves by letting your PC do all the work. You simply set up the software and let all information be transferred to and from your IBM PC and the other computer automatically. With this electronic data transfer, all information is exchanged at the fastest rate possible and your phone bill is less. The following programs are available from Micro Match.

DATA CAPTURE (Southeastern Software)\$85.00
MICRO TERMINAL (Microcom)\$75.00
SMARTCOM II (Hayes, see description under Smartmodem 1200B)\$5.00

Disk Drives

DISK DRIVES

5 1/4" FLOPPY DISK DRIVES

Because of availability, Micro Match is now offering 5 1/4" floppy disk drives from 2 different manufacturers: Tandon and CDC. Both of these drives are completely compatible with all IBM PC hardware and software and are designed to mount directly into the PC. Easy to follow instructions and all required hardware are included.

At the time this catalog was prepared, Micro Match had not evaluated the new half-height floppy disk drives from Shugart and Tandon. Contact Micro Match for more availability on these products.



Floppy Disk Drive Package

FLOPPY DISK DRIVE PACKAGE

The Floppy Disk Drive Package includes everything you need to add 2 double sided, double density 5 1/4 inch floppy disk drives to your IBM PC. You get a disk drive adapter board, a cable to connect 2 internally mounted drives, two 5 1/4 inch double sided, double density floppy disk drives, all mounting hardware, complete instructions and the BEST warranty anywhere.

The disk drive package features the Maynard floppy disk drive adapter board. This board is completely compatible with all PC hardware and software, and will control up to four 5 1/4" floppy disk drives (either single or double sided). The Maynard floppy disk drive adapter board also features a 1 year warranty (fully supported by Micro Match). A cable is included to attach the two internally mounted disk drives to the disk drive adapter board.

This disk drive package also includes two 5 1/4" double sided double density floppy disk drives (each drive is 320 K bytes formatted). The drives are either Tandon TM 100-2 or CDC 9409 TAB-1800. These drives are interchangeable and both are completely compatible with all IBM PC hardware and software. Both drives come with the Micro Match 90 day exchange warranty (no waiting for warranty service — we'll replace your drive with a brand new drive AND another 90 day warranty). The type of disk drive included with the package depends on which type we have in stock. If we have both, it's your choice.

Complete easy to follow instructions make installation simple (requires 15-30 minutes). We also provide free installation and check out if you bring your IBM PC to our store (maximum delay is 24 hours — call first to reserve time).

MM-FDOP (Complete 2 drive package)\$585.00



Tandon TM 100-2 disk drive

TANDON TM 100-2

The Tandon TM 100-2 is the same drive you've seen elsewhere for up to \$640.00. This drive is double sided, double density and handles 320 K bytes formatted (500 K bytes unformatted) and mounts directly within the IBM PC. Complete, easy to follow illustrated instructions are included. Mounting hardware is also included.

The Tandon TM 100-2 comes with the Micro Match 90 day exchange warranty. If any Tandon TM 100-2 purchased from Micro Match requires service under the 90 day warranty period, we replace it with a brand new drive (and another 90 day warranty). Our customers don't have to wait for service. Immediate delivery is subject to available stock. The 90 day replacement warranty starts when we deliver — not when we ship.

TANDON TM 100-2\$249.00



CDC double sided disk drive

CDC 9409 TAB-1800

The CDC 9409 TAB-1800 5 1/4" floppy disk drive is completely compatible (form, fit and function) with the IBM PC. This drive is double sided, double density and handles 320 K bytes of formatted data (500 K bytes unformatted). The CDC 9409 TAB-1800 mounts directly within the IBM PC. Complete, easy to follow illustrated instructions and all required mounting hardware are included.

The CDC 9409 TAB-1800 comes with the Micro Match 90 day exchange warranty. If any CDC 9409 TAB-1800 purchased from Micro Match requires service under the 90 day warranty period, we replace it with a brand new drive (and another 90 day warranty). Our customers don't have to wait for service. Immediate delivery is subject to available stock. The 90 day replacement warranty starts when we deliver — not when we ship.

CDC 9409 TAB-1800\$259.00

Diskettes & Accessories

FLOPPY DISKETTES

Don't compromise your data! If you're writing programs, you can spend hundreds of hours getting the bugs out. If you're running a business, you can't afford to lose valuable information. In either case, you need the best floppy diskettes available and Micro Match has them.

The amount of data you can store on these 5 1/4" floppy diskettes depends on two things: the floppy disk drive you are using and the disk operating system you are using. Diskettes are rated in 3 different categories: single sided/double density, double sided/double density and double sided/quad density.

The following table indicates the amount of data you can expect to store on each diskette. The table assumes that the disk drive you are using is capable of using the full capacity of the diskette. You CAN NOT get double sided/quad density storage unless the disk drive, diskette and disk operating system will handle it. The FORMATTED capacities list the common IBM PC disk operating system formats. The JFORMAT program (from Tail Tree Systems) modifies DOS 1.1 to increase the floppy disk capability.

Micro Match carries a complete line of 5 1/4" and 8" diskettes with either soft sector or hard sector formatting. Call for prices on all your diskette needs.



Dyan Diskettes

FLOPPY DISKETTE PRICES

(All prices are box of 10)

| | |
|---|--------------|
| DYSAN 104/1D (single sided/double density) |\$36.00 |
| DYSAN 104/2D (double sided/double density) |43.00 |
| MAXELL MD2 (double sided/double density) |48.00 |
| VERBATIM 5250 (single sided/double density) |35.00 |
| VERBATIM 5500 (double sided/double density) |47.00 |
| VERBATIM 5570 (double sided/quad density) |56.00 |

FLOPPY DISKETTE STORAGE CAPACITIES

| Manufacturer & Type | Unformatted (K Bytes) | Formatted (K Bytes) | | | | |
|---------------------|--------------------------|------------------------|----------|---------|---------|---------|
| | | DOS 1.0 | DOS 1.05 | DOS 1.1 | DOS 2.0 | JFORMAT |
| DYSAN 104/1D 1S/2D | 250 | 160 | 160 | 160 | 180 | 200 |
| DYSAN 104/2D 2S/2D | 500 | 160 | 160 | 320 | 360 | 400 |
| MAXELL MD2 2S/2D | 500 | 160 | 160 | 320 | 360 | 400 |
| VERBATIM 5250 1S/2D | 250 | 160 | 160 | 160 | 180 | 200 |
| VERBATIM 5500 2S/2D | 500 | 160 | 160 | 320 | 360 | 400 |
| VERBATIM 5570 2S/QD | 1000 | 160 | 160 | 320 | 360 | 800 |



Diskette Storage Case

DISKETTE STORAGE CASES

Protect your valuable diskettes with a diskette storage case. These cases will keep your diskettes safe from dust, dirt, smoke and grease. You can store up to 50 diskettes in each case (either 5 1/4" or 8") and moveable partitions are included to help you find your diskettes quickly.

Your diskettes are supported so that they won't bend or warp even if you leave them for years. The base of these cases is weighted so it doesn't slide when you lift the lid. The top is translucent and the base is sand colored to match the IBM PC. The cases are also anti-static to prevent damage due to static discharge.

| | |
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| MINI FLEX FILE CASE (5 1/4" diskettes) |\$25.00 |
| MAXI FLEX FILE CASE (8" diskettes) |37.50 |

PROTECTIVE JACKETS FOR MAILING DISKETTES

These diskette jackets are designed to protect your diskettes from handling damage. Constructed with heavy-duty 90 lb. board stock, the durable material gives a positive resistance to bending. Besides being antistatic, the inner lining is smooth to protect against scratches. The

jackets have an easy to use self sealing closure. Each jacket can hold 1 floppy diskette.

Packages of 10 each.

| | |
|-------------------------------------|--------------|
| PROTECTIVE MAILING JACKETS (5 1/4") |\$ 9.90 |
| PROTECTIVE MAILING JACKETS (8") |19.50 |

—Disk Drive Adapters & Displays—

DISK DRIVE ADAPTER BOARDS

MAYNARD ELECTRONICS

Maynard Electronics is a premier manufacturer of disk drive controller boards, offering a variety of features and capabilities (contact Micro Match for information on the Sandstar series of multifunction boards from Maynard). These floppy controller boards are available to handle either 5 1/4" or 8" inch drives and offer optional serial or parallel ports.



Floppy disk drive controller (internal cable not shown).

5 1/4" FLOPPY DRIVE ADAPTER

This single board floppy disk drive adapter is completely compatible with the IBM Personal Computer and performs the same functions as the IBM disk drive adapter board. Up to 4 drives may be connected to the adapter boards (2 internal drives and 2 external drives). The board supports either double or quad density drives, either single or double sided (up to 800 K bytes formatted). A cable is included to connect up to 2 internal drives. All Maynard products come with a 1 year warranty.

FDC (includes internal cable)\$169.00

MULTIFUNCTION FLOPPY DRIVE ADAPTER

These multifunction boards save space in your PC by adding a second function to the disk drive adapter capability. The disk drive adapter functions are the same as described above for either the 5 1/4" (FDC) or 8" (FDC-8). Either a serial or a parallel port can be added to the board (serial port not available on the 8" controller). The serial and parallel ports are completely compatible with all IBM software and hardware.

FDC-SP (5 1/4" adapter w/serial)\$249.00
FDC-PP (5 1/4" adapter w/parallel)209.00
FDC-8PP (5 1/4" & 8" adapter w/parallel)245.00

5 1/4" AND 8" DRIVE ADAPTER

This single board floppy disk drive adapter is completely compatible with the IBM Personal Computer. Up to 4 drives may be connected to the adapter (2 internal 5 1/4" drives and 2 external 8" drives). The board supports double density drives, either single sided or double sided. A cable is included to connect up to 2 internal drives. The external cable is optional (part FDC-8XC). This board also features a 1 year warranty (supported by Micro Match). A software driver (either Talgrass Technology JFORMAT or Maynard FDC-8SW) is required to control the external 8" floppy drives. See the software utilities section of this catalog for details on JFORMAT.

FDC-8 (w/internal cable)\$189.00
FDC-8XC (external 8" drive cable)55.00
FDC-8SW (software for 8" drives)60.00
JFORMAT45.00

MONOCHROME DISPLAYS



Amdek Video 300A Display

Monochrome displays are available with green or amber screens for either the monochrome or color/graphics adapter boards. If you already have the color/graphics adapter and a color monitor, you can use one of these adapters for your text processing without investing in a monochrome display adapter.

The Amdek Video 300 and Video 300 A are green and amber displays for the color/graphics adapter board. Both of these monitors require a composite video cable for use with the color adapter.

The Amdek Video 310 and Video 310 A are green and amber displays, respectively, for the monochrome display adapter. The cable is included with the monitor. All Amdek video monitors come with a 1 year warranty.

MONOCHROME GRAPHICS DISPLAYS

AMDEK VIDEO 300 (Green)\$149.00
AMDEK VIDEO 300 A (Amber)165.00
COMPOSITE VIDEO CABLE10.00

MONOCHROME DISPLAYS

AMDEK VIDEO 310 (Green)175.00
AMDEK VIDEO 310 A (Amber)169.00



Colmon (color to monochrome adapter)

JOYSTICKS AND GAME PADDLES

Whether you're playing games or using your PC for interactive graphics, a joystick, track ball or paddle will be a useful addition to your hardware.

Joysticks have a control stick that you can move in any direction (right, left, up or down). Track balls have similar control, but instead of moving a control stick, you spin a ball in the direction you want to move. Paddles, on the other hand, have a knob you turn to move either right or left.

These devices require at least 1 games port and software that is designed to use them. See the games section of this catalog for examples of software that use games ports.

The following products are available from Micro Match:

KRAFT

| | |
|----------------|---------|
| JOYSTICK | \$49.00 |
| PADDLE | 35.00 |

TG PRODUCTS

| | |
|---------------------------------|---------|
| JOYSTICK (with 2 buttons) | \$47.50 |
| TRACK BALL | 49.95 |

TECH DESIGNS

| | |
|---------------------------------|---------|
| ADAM AND EVE GAME PADDLES | \$29.95 |
|---------------------------------|---------|



Joystick from TG Products

COLOR TO MONOCHROME ADAPTER

COLMON (ABM)

The COLMON is an adapter that allows you to attach your IBM (or compatible) monochrome display to the color/graphics adapter board. This gives you the ability to use the monochrome display adapter for text processing and the color/graphics adapter for graphics, all with the same display.

The COLMON module attaches between the color/graphics adapter and the monochrome display. There is no modification required to either the IBM PC or the color/graphics card. A simple internal adjustment to the monochrome display expands the display to fill the entire screen (complete instructions are included). A diskette is included to eliminate display flickers that occur with some software.

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| COLMON (ABM) | \$89.95 |
|--------------------|---------|

COLCAB (ABM)

The COLCAB is a "Y" cable for the color to monochrome (COLMON) adapter that lets you connect both the monochrome display and an RGB color display to the color/graphics board simultaneously. The COLMON is required for use with a monochrome display.

| | |
|--------------------|---------|
| COLCAB (ABM) | \$27.50 |
|--------------------|---------|

HERCULES HIGH RESOLUTION MONOCHROME GRAPHICS CARD

The Hercules Graphics Card enables you to use your IBM Monochrome Display in a high resolution graphics mode. This card replaces the IBM Monochrome display adapter and provides all of the same features PLUS the ability to display high resolution graphics.

Two graphics pages are stored on the card. Each page has a resolution of 740 horizontal and 348 vertical picture elements (pixels). The Hercules Graphics card is compatible with IBM PC DOS, BIOS and the BASIC interpreter. Any software that operates with the IBM PC Monochrome Display Adapter will work with this card.

With the Hercules Graphics Card, both text and graphics may be displayed at the same time. In the graphics mode, alphanumeric characters are drawn from a disk based character font. This character set is identical to the IBM PC style of 9X7 dots in a 14X9 box.

An IBM PC hardware and software compatible parallel printer port is included as well as a light pen port. The board has 64 K of on board memory that overlaps the color display memory space, so the IBM Color Display adapter may not be used while this board is installed.

A program diskette is provided that supports BASIC commands of LINE, CIRCLE, PAINT, DRAW, SCREEN, POINT and PSET. Software designed for the color graphics card will not run on the Hercules Graphics Card.

The Hercules Graphics Card comes with a 90 day warranty.

| | |
|------------------------------|-----------|
| HERCULES GRAPHICS CARD | \$ 375.00 |
|------------------------------|-----------|

COLOR DISPLAYS

Selecting the right color monitor for your application can be a difficult task. Like any other specialized industry, the color monitor industry has its own language. The following paragraphs will help you become familiar with the terms and enable you to select the monitor just right for you. We have also included a comparison chart (following the text) to help you compare the various monitors.

The screen on color displays (including color televisions) is made up of lots of small dots or bars. The dots (or bars) are formed in groups of three, with each group having a red, a green and a blue dot. The dots (or bars) are very small and close together, so when you look at the screen, you see a picture and not the individual dots.

Resolution is a term used to tell you how many of these dots there are on the screen. Resolution is measured both horizontally and vertically, and you can use the chart below to compare the number of horizontal dots with the number of vertical lines on each of the displays. The more dots you have on the screen, the sharper the image will appear. One way to see this is to imagine drawing a circle by just making dots. The more dots you use, the closer you get to a real circle. Associated with resolution is the dot spacing, which simply tells you how close together the dots are. The closer the dots are to each other, the higher the resolution and the sharper the picture. Generally, the higher resolution monitors will be more expensive.

In a color television set, the intensity of each of the colors can be set to any brightness desired. By adjusting the amount of the red, green and blue, almost any color can be created. In computer monitors, however, the intensity can not be set to any desired level. Usually, there are only two levels for each of the three colors: on or off. Since you have three colors with two levels each, you can have a maximum of $2 \times 2 \times 2 = 8$ colors. With the IBM PC color display board, however, there is an intensity signal that can be used to highlight the colors, so that each of the 8 colors has 2 brightness levels for a total of 16 colors. The selection chart will tell you how many colors each display is capable of displaying (8 or 16).

Two different schemes are used by computers to send the 3 colors to the display: RGB and composite. In the RGB method, 1 wire is used for each of the color signals (and a 4th if the display has the intensity feature). In the composite method, all 3 signals are added together into 1 wire to form the total picture.

It might seem that the composite method has advantages over the RGB method since it requires only 1 signal (and hence 1 wire) to get the color information to the display. There is a drawback to this, however. In the composite method, the display must separate the signals back into the 3 colors (red, green and blue) before putting them up on the screen. This requires additional processing of the signals and reduces the quality of the display. The RGB method does not require this additional processing and therefore will have a crisper, cleaner picture. The chart indicates which of the displays are the RGB type and which are the composite type.

If you are using the color monitor for character displays (such as word processing, spread sheets or other alphanumeric data), you should be concerned with the number of characters you can display in each line. The choice is either 40 columns (for medium resolution displays) or 80 columns (for high resolution displays). Since all color monitors have a very fast screen, they are not capable of the high quality character display of the IBM Monochrome Display (or its equivalent). All color displays will exhibit the individual dots of each character while the

monochrome display will spread these dots into smooth, pleasing characters.

Micro Match carries a wide range of monitors. Check the following chart to help pick the one you need.

AMDEK MONITORS

AMDEK COLOR I

The AMDEK COLOR I is a composite video (not RGB) monitor that gives a bright, crisp 13" color display. The COLOR I supports medium resolution 8 color graphics with 260 dots horizontally and 300 lines vertically. This resolution allows up to 40 characters of data on each display line. The cabinet is an attractive beige that closely matches the color of the IBM PC. The controls are mounted on the front of the cabinet and a carrying handle is built in. The AMDEK AC 100 adapter cable is required for use with the IBM PC.

All AMDEK monitors come with a 1 year warranty.

AMDEK COLOR I (requires AC 100 cable) \$310.00
AMDEK AC100 CABLE 19.50

AMDEK COLOR II

The COLOR II monitor is a 13" high resolution RGB monitor that permits up to 16 color graphics and an 80x24 color text display. The COLOR II is ideal for word processing, business charts, scientific data and all high resolution color display applications. The COLOR II supports up to 560 dots horizontally and 240 lines vertically. The cabinet is beige and brown with the display controls conveniently mounted in the front. A carrying handle is built in. An IBM PC compatible cable is included.

All AMDEK monitors come with a 1 year warranty.

AMDEK COLOR II (cable included) \$ 650.00

AMDEK COLOR III

The COLOR III display is a medium resolution 8 color 13" RGB monitor. The screen resolution is 260 dots horizontally and 300 lines vertically, allowing for up to 40 characters of data per line. The COLOR III has front panel controls and a built in carrying handle. The cabinet is tan and brown and an IBM PC compatible cable is included.

All AMDEK monitors come with a 1 year warranty.

AMDEK COLOR III (cable included) \$379.00

ELECTROHOME MONITORS

ELECTROHOME ECM 1302-1

The ECM 1302-1 is a high resolution 16 color 13" RGB display featuring a screen resolution of 720 dots horizontally and 512 lines vertically, allowing a full 80 character display. The 1302-1 uses a special display tube to produce a crisp, clear picture. The cabinet is tan (similar to the front of the IBM PC) with the display controls mounted on the front. The 16 color cable is required. All Electrohome monitors come with a 1 year parts and labor warranty.

ELECTROHOME ECM 1302-1 MONITOR \$529.00
ELECTROHOME 16 COLOR CABLE 79.00

| Manufacturer & Model | RGB or Composite | Screen Diagonal Size | Number of Colors | Dot Spacing (mm) | Number of Horizontal Dots | Number of Vertical Lines | Number of Characters per Line | Resolution | Price |
|------------------------|------------------|----------------------|------------------|------------------|---------------------------|--------------------------|-------------------------------|------------|--------|
| AMDEK COLOR I | C | 13 | 8 | .43 | 260 | 300 | 40 | M | 310.00 |
| AMDEK COLOR II | R | 13 | 16 | .43 | 660 | 240 | 80 | H | 650.00 |
| AMDEK COLOR III | R | 13 | 8 | .66 | 260 | 300 | 40 | M | 379.00 |
| ELECTROHOME ECM 1302-1 | R | 13 | 16 | .31 | 720 | 512 | 80 | H | 529.00 |
| ELECTROHOME ECM 1302-2 | R | 13 | 16 | .67 | 370 | 235 | 40 | M | 299.00 |
| NEC JC-1203DH | R | 12 | 16 | .31 | 690 | 230 | 80 | H | 635.00 |
| QUADRAM QUADCHROME | R | 12 | 16 | .31 | 690 | 480 | 80 | H | 525.00 |
| TAXAN RGBVision I | R | 12 | 16 | .63 | 380 | 262 | 40 | M | 329.00 |
| TAXAN RGBVision III | R | 12 | 16 | .38 | 630 | 262 | 80 | H | 550.00 |

COLOR DISPLAY COMPARISON CHART

ELECTROHOME ECM 1302-2

The ECM 1302-2 is a medium resolution 13" RGB input monitor with 16 color capability. The screen resolution is 370 dots horizontally by 235 lines vertically. The 1302-2 supports medium resolution graphics and up to 40 text characters per line. The cabinet is tan (similar to the front of the IBM PC) with a grey front panel around the screen. The controls are conveniently mounted on the front of the screen. The 16 color cable is required for use with the IBM PC. All Electrohome monitors come with a 1 year parts and labor warranty.

ELECTROHOME ECM 1302-2 MONITOR\$299.00
ELECTROHOME 16 COLOR CABLE79.00

NEC HOME ELECTRONICS (U.S.A.) MONITORS

NEC JC-1203DH

The JC1203DH is a 12" diagonal monitor using a dot type black matrix high resolution screen. The resolution is 690 dots horizontally and 230 lines vertically, providing up to 80 characters of text per line with 16 colors. The cabinet is off-white with a sloped back design. The power and intensity controls are on the front panel. The CG91 cable is required for use with the IBM PC. The NEC JC-1203DH monitor is warranted for 90 days.

NEC JC-1203DH RGB MONITOR\$635.00
NEC CG91 CABLE24.99

QUADRAM COLOR MONITOR

QUADRAM QUADCHROME

The QUADCHROME display is a high resolution 12 inch RGB monitor that delivers up to 16 different colors. The screen resolution is one of the highest available (690 horizontal by 480 vertical) and provides for sharp, clear images. The controls are mounted on the front of the display for each access. The Quadchrome display comes with a 1 year warranty.

QUADRAM QUADCHROME RGB MONITOR\$525.00

TAXAN MONITORS

TAXAN RGBVISION-I

The RGBVision I is a medium resolution 12" RGB 16 color monitor. This monitor features 380 dots horizontally and 262 lines vertically, allowing for 40 columns of text in 25 lines. Up to 16 simultaneous colors can be displayed. The RGBVision I requires the Taxan interconnecting cable for use with the IBM PC. All Taxan monitors come with a 1 year warranty.

TAXAN RGBVision-I\$329.00
TAXAN Interconnecting cable (IBM PC Version)17.00

TAXAN RGBVISION-III

This 12" RGB color monitor has a black matrix screen and a non-glare face plate that creates vivid, crisp colors. The resolution of the RGB Vision III is 630 dots horizontally and 262 lines vertically, and will handle up to 80 characters on 25 lines. Up to 16 colors can be simultaneously displayed. The RGBVision-III requires the TAXAN interconnecting cable for use with the IBM PC. All Taxan monitors come with a 1 year warranty.

TAXAN RGBVision-III\$550.00
TAXAN Interconnecting cable (IBM PC Version)17.00

IBM'S PERSONAL COMPUTER, 2nd EDITION (Que On Systems)

This is the second edition of the popular IBM's Personal Computer book from Que On Systems. This edition has been expanded to include the PC XT. Like the first edition, the book thoroughly explains the IBM PCx, including how they are made, how they work and what they can do. The information is easily understood by nontechnical persons, but crammed with all the information a professional needs.

IBM's Personal Computer also includes business software evaluations for the IBM Easy Writer word processor, IBM VisiCalc Spreadsheet, and the IBM Peachtree Accounting series. Each important feature is rated on a scale from 1 to 10 and function lists show the software capability in detail.

IBM'S PERSONAL COMPUTER, 2nd EDITION
(Que On Systems)\$12.50

PRINTERS

Two types of printers are available for personal computers: Dot matrix and letter quality. The dot matrix printer is the workhorse printer for general purpose applications while the letter quality printer is primarily used when high quality text is required. The following paragraphs explain the important features and differences between these two types of printers.

DOT MATRIX PRINTERS

Dot matrix printers print dots — nothing more, nothing less. All of the characters, figures, shapes and symbols are formed by placing enough dots in the right places so that the desired information is placed on the page.

When a computer tells a dot matrix printer to form a character, the printer looks into its own memory to decide where the dots should be placed to form that character. This is how all dot matrix printers form letters, numbers and punctuation. Some printers include graphics in their repertoire. These dot matrix printers have special symbols in their memory that allow you to print commonly used shapes (such as lines and bars). If you are printing forms, for example, you need a printer with graphics.

The best graphics are those designed by you for your application. If your application calls for special graphics (such as circles, pictures, or unusual figures), then you need a printer with dot addressable graphics. These printers let you, the user, determine exactly where you want your dots. With a dot addressable printer, there is no limit to the shapes you can create.

Dot matrix printers are also fast. They can print up to 200 characters per second (320 per second by August). If you print long programs, mail lists, or documents that don't require exceptional quality, then a dot matrix printer is probably best for you.

LETTER QUALITY PRINTERS

Letter quality printers produce high quality text. Instead of using dots to form the character, there is a formed printing element for each of the characters that the printer can print. Each time a character is printed, the specific element

is placed in front of the paper and then printed. Most letter quality printers use a daisy wheel (a rotating wheel) for creating these high quality symbols.

Letter quality printers are generally slower than dot matrix printers with speeds of 10 to 40 characters per second.

OTHER PRINTER FEATURES

Once you've decided which type of printer you need, you can decide which model you need. Here are a few things to look for.

Select a printer that is compatible with your computer. Since printers are relatively slow, there is no functional distinction between a printer with a serial input or a parallel input. A serial printer will usually be somewhat more expensive than a parallel printer, but if you have an extra serial port on your PC then you won't need an expansion board and will probably save with the serial printer.

Determine what type of paper you want to use and then decide if you want tractor feed, friction feed or both. Tractor feed requires paper with punched holes along each edge so that it can be pulled through the printer by the tractor. The tractor is required for handling continuous forms (such as a program listing, invoicing, payroll, etc.). Friction feed allows you to feed individual pieces of paper into the printer (like a typewriter). This is great for business letters where you want to use your letterhead. If you need multiple copies, make sure the printer you select can handle them. If you want wide paper, make sure the printer has a carriage that will handle it.

If you select a dot matrix printer, decide if you need graphics. If you do, make sure you select a printer that either has the graphics you need already built in or has dot addressable graphics so you can design your own.

The last major consideration is speed. With all other features equal, expect to pay more for a faster printer than a slower printer.

The following tables (1 for letter quality and 1 for dot matrix) will help you compare the various printers available from Micro Match.

LETTER QUALITY PRINTER SELECTION GUIDE

| Manufacturer & Model | Printing Speed | Serial or Parallel | Price |
|----------------------|----------------|--------------------|---------|
| BROTHER HR-1P | | P | 799.00 |
| BROTHER HR-1S | | S | 869.00 |
| SMITH CORONA TP-1P | 12 | P | 670.00 |
| SMITH CORONA TP-1S | 12 | S | 670.00 |
| XEROX 620 | 20 | S | 1270.00 |
| XEROX 630 | 40 | S | 2395.00 |

Printers & Accessories

DOT MATRIX PRINTER SELECTION GUIDE

| Manufacturer & Model | Print Speed (CPS) | Paper Width (in.) | Lines Per Inch | Printable ASCII Characters | Graphics | Dot Addressable | Number of Copies | Tractor or Friction | Serial or Parallel | Price |
|----------------------|---|-------------------|----------------|----------------------------|----------|-----------------|------------------|---------------------|--------------------|---------|
| ANADEx 9000A | 150 | 8.0 | 6/8 | 95 | Y | 80/72 | 6 | | S/P | 1275.00 |
| ANADEx 9001A | 150 | 8.0 | 6/8 | 95 | Y | 75/72 | 6 | | S/P | 1275.00 |
| ANADEx 9500 | 150 | 13.2 | 6/8 | 95 | Y | 80/72 | 6 | | S/P | 1295.00 |
| ANADEx 9500A | 150 | 13.2 | 6/8 | 95 | Y | 80/72 | 6 | | S/P | 1295.00 |
| ANADEx 9501 | 120 | 13.2 | 6/8 | 95 | Y | 75/72 | 6 | | S/P | 1295.00 |
| ANADEx 9501A | 120 | 13.2 | 6/8 | 95 | Y | 75/72 | 6 | | S/P | 1295.00 |
| ANADEx 9600A | 200 | 13.2 | 6/8 | 95 | Y | 72/72 | 6 | | S/P | 1450.00 |
| EPSON FX 80 | 160 | 8.0 | 6/8 | 96 | Y | 120/120 | | T/F | P | 542.00 |
| EPSON MX 100 | 100 | 13.2 | 6/8 | 96 | Y | 120/120 | | T/F | P | 620.00 |
| EPSON MX 80F/T | 80 | 8.0 | 6/8 | 96 | Y | 120/120 | | T/F | P | 434.00 |
| EPSON MX 80 | 80 | 8.0 | 6/8 | 96 | N | N/A | | T | P | 410.00 |
| NEC 8023 | 100 | 9.0 | 6/8 | 96 | Y | | 4 | T/F | P | 485.00 |
| OKIDATA 80 | 80 | 9.5 | 6/8 | 96 | N | N/A | | T/F | P | 345.00 |
| OKIDATA 82A | 120 | 9.5 | 6/8 | 96 | Y | N/A | | T/F | S/P | 425.00 |
| OKIDATA 83A | 120 | 13.2 | 6/8 | 96 | Y | N/A | | T/F | S/P | 695.00 |
| OKIDATA 84S | 200 | 13.6 | 6/8 | 96 | Y | 144/72 | 4 | T/F | S | 1150.00 |
| OKIDATA 84P | 200 | 13.6 | 6/8 | 96 | Y | 144/72 | 4 | T/F | P | 1075.00 |
| OKIDATA 92P | 160 | 8.0 | 6/8 | 96 | Y | 72/72 | 4 | T/F | P | 535.00 |
| OKIDATA 93P | 160 | 13.6 | 6/8 | 96 | Y | 72/72 | 4 | T/F | P | 945.00 |
| TRENDCom 100 | (TRENDCom SPECIFICATIONS NOT AVAILABLE) | | | | | | | | | 249.00 |
| TRENDCom 200 | AT PRESS TIME) | | | | | | | | | 325.00 |



A. System Unit Cover B. Printer Cover

ACCESSORIES

DUST COVERS

Protect your valuable IBM PC investment! Dirt and dust can have harmful effects on the mechanical parts of your machine, particularly the floppy disk drives. These lightweight synthetic covers will help keep your system components clean.

The System Cover fits over the display, system unit and keyboard while the Printer Cover fits over the 80 column dot matrix printer (either the IBM or the Epson).

SYSTEM COVER (not for expansion chassis) \$13.50
 PRINTER COVER 10.95
 BOTH COVERS (1 of each) 23.50

TEST AND DEVELOPMENT HARDWARE

MM39-1 EXTENDER BOARD

The MM39-1 extender board is designed to simplify testing of IBM PC circuit cards. The MM39-1 plugs into any connector on the system bus and extends this connector up and out of the system unit. The board to be tested is then plugged into the MM39-1 and secured in place with our unique locking hardware.

Both sides of the board being tested are then exposed for easy access to all components. Even with probes attached, the locking hardware holds the board in place.

The MM39-1 is made of the highest quality glass epoxy board material. All circuit traces are solder plated over 2 ounce copper. The edge fingers are gold plated over nickel plating over copper, to provide long, reliable use. A complete manual is included with the board.

MM39-1 EXTENDER BOARD \$35.00

MM77-1 PROTOTYPING BOARD

Our prototyping board is full size to give you the most versatility of any prototyping board available. The hole pattern is horizontal (on 0.1" centers) to provide the absolute maximum density. Any dual-in-line integrated circuit or component can be installed on the MM77-1.

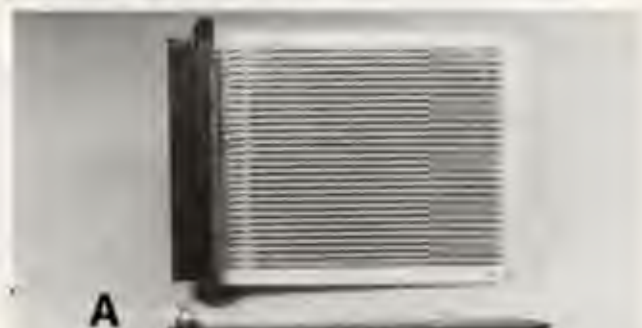
Low impedance power and ground busses are built in. The ground bus is on both sides of the board. To make power connections easier, a power bus is interleaved with the ground bus on the wiring side of the board. Also, holes are provided to install ceramic and electrolytic decoupling capacitors between the power and ground busses. In addition, holes are provided for adding an optional 37 pin subminiature "D" connector on the rear of the MM77-1.

Complete mounting hardware (including a snap in card guide) come with the MM77-1. The accompanying documentation includes a full size hole pattern for easy layout and a definition of every signal on the IBM PC BUS. The board is made from glass epoxy material and features nickel, gold and solder plating in all the right places. Solder pads are included for every hole on the board (over 2000 holes).

MM77-1 PROTOTYPING BOARD \$45.00
37 PIN "D" CONNECTOR 18.00

DEVELOPMENT KIT:

1 MM39-1 & 1 MM77-1 \$75.00



A. MM39-1 Extender Board B. MM77-1 Prototyping Board
C. Extender Board shown in unit with wired Prototyping Board (ready for testing).

THREE RING BINDERS

Are you looking for a binder to organize all your software and option looseleaf manuals? Our three ring binders are designed to hold the IBM manual size (5 1/2" x 8 1/2") sheets of paper.

They feature white vinyl covers with a clear vinyl overlay. The overlay design permits you to slip in your own printed material for a custom look.

THREE RING BINDER \$5.95
100 THREE RING BINDERS 475.00

CARD GUIDES

Card guides are required to hold all of your full length boards securely in place within the system unit. This prevents the boards from accidentally touching other boards in the system unit and causing expensive damage. The guides fit ALL manufacturer's boards and easily snap into holes provided for by IBM in the system unit.

CARD GUIDES (1) \$1.50
CARD GUIDES (Set of 5) \$5.00
CARD GUIDES (Set of 8) \$7.50

Winchester Disk Drives

WINCHESTER DISK DRIVE AND BACKUP SYSTEMS

As your data storage needs expand, you'll find that the PC's floppy disk drives limit your computer's capability. Winchester disk drives solve this problem by offering large amounts of economical storage. As a bonus, Winchester disk drives save time by storing and retrieving data at least 8 times faster than floppy disk drives (up to 30 times faster in some applications).

Winchester disk drives differ from floppies in that the diskettes are enclosed in a completely sealed environment to prevent the disks and disk drive heads from coming in contact with smoke, dust and other contaminants. Also, the Winchester disks are much stiffer than floppy diskettes. These features permit Winchester disks to spin about 30 times faster than floppies and also allow the heads to be placed much more accurately. This adds up to more data and faster speed.

Whether you use floppy or Winchester disk drives, you should always back up your programs and data with duplicate copies. Most systems with Winchester disk drives backup their data with floppy diskettes. This becomes inconvenient with large amounts of data, since 16 floppy diskettes are required to backup 10M bytes of data. An alternative is a mass data backup system. These cartridge backup systems are designed to conveniently store Winchester sized data. Different sets of data can be

stored on each cartridge to allow 1 system to handle all your needs.

Micro Match carries the Corvus and Davong series of Winchester hard disk drives for the IBM PC. The following descriptions will help you decide which of these systems is best for your needs. Contact Micro Match for more information and technical specifications. All hard disk drives from Micro Match are fully tested before shipping. Specify the desired hard disk formatting and we will format it on the drives before shipping. Installation and demonstration are free if you bring your IBM PC to our store.



Davong external Hard Disk Drive (cable and adapter not shown)

CORVUS SYSTEMS

The Corvus Winchester systems are self contained cabinets that include a 5 1/4" hard disk drive, controller and power supply. A host adapter card and connecting cable are included. The host adapter plugs into the IBM PC expansion bus and the cable connects the host adapter card to the disk drive cabinet.

The hard disk drives are available to handle 5.7, 12.1 or 18.4 M bytes of formatted data. Up to 3 additional drives can be added to the system to provide a maximum of 73.6 M bytes of on line data storage. The optional Mirror backup system can be included with any drive system or added at a later time.

All software required to drive the disk system under IBM PC DOS 1.1 is included (DOS 2.0 support should be available in June, 1983). The software is compatible with all PC DOS commands and utilities. Little or no modifications are required to use your existing programs. Several utilities for hard disk diagnostics, operating system updates and Mirror backup controls are also included.

The Corvus Mirror allows you to copy data from your Corvus hard disk onto inexpensive video tape cassettes using a standard video cassette recorder. You can transfer an entire disk onto 1 tape cassette. You can backup your data, recall the data, verify the data (check for errors) and identify what is data on the cassette. Two versions of the Mirror are available. It can be ordered as a built in option to any of the hard disk systems or as an add on in it's own container. Contact Micro Match for detailed specifications. The video cassette recorder is not included with the Mirror.

Corvus disk systems come with a six month parts and labor warranty. Contact Micro Match for details on extended warranties (up to 30 months).

| | |
|--|-----------|
| CORVUS 081B (5.7 byte without Mirror) | \$2075.00 |
| CORVUS 081B/M (5.7 M byte with Mirror) | \$2725.00 |
| CORVUS 111B (12.1 M byte without Mirror) | \$2900.00 |
| CORVUS 111B/M (12.1 M byte with Mirror) | \$3550.00 |
| CORVUS 201B (18.4 M byte without Mirror) | \$3725.00 |
| CORVUS 201B/M (18.4 M byte with Mirror) | \$4380.00 |
| CORVUS MIRROR (External add on Mirror) | \$ 725.00 |

DAVONG SYSTEMS, INC. (DSI)

Davong hard disk drives for the IBM PC are available with 5, 10, 15, 21 and 32 megabytes of formatted data. Although the Davong hard disks are available for mounting either inside the IBM or externally with it's own cabinet, Micro Match recommends external mounting only. In the external arrangement, the hard disk drive, power supply and controller are enclosed in an attractive beige cabinet that complements the IBM PC colors. A host adapter card plugs into the IBM PC expansion bus and a cable connects the host adapter to the disk drive cabinet. Up to 3 additional disk drives may be attached to the rear of the disk cabinet providing a maximum of 120 megabytes of on line storage.

The Davong hard disk drives include all the software to modify IBM PC DOS (1.1 or 2.0). After the drives are formatted and DOS is modified, operation is completely transparent to the user. You simply access the drives the same way you access the floppy disk drives (A: FILENAME, B: FILENAME, C: FILENAME, etc.). All of the standard IBM DOS utilities are included. Imagine entering "CHKDSK A:" and seeing "13724672 bytes available on disk" (this is the actual number seen on the 15-M byte Davong hard disk attached to the IBM PC used to write this catalog).

The Davong tape backup system is a complete tape cartridge system for duplicating hard disk (or floppy disk) data. Each cartridge handles up to 18 megabytes (36 double density floppy diskettes) of data. Complete software is included for backing up and recovering data.

Davong products come with a 90 day warranty. Contact Micro Match for extended period warranty information and detailed technical specifications.

| | |
|--|-----------|
| DAVONG 5 M BYTE DISK DRIVE SYSTEM | \$1595.00 |
| DAVONG 10 M BYTE DISK DRIVE SYSTEM | \$1895.00 |
| DAVONG 15 M BYTE DISK DRIVE SYSTEM | \$2195.00 |
| DAVONG 21 M BYTE DISK DRIVE SYSTEM | \$2595.00 |
| DAVONG 32 M BYTE DISK DRIVE SYSTEM | \$3195.00 |
| DAVONG 18 M BYTE TAPE BACKUP SYSTEM (tape cartridge not included) | \$1595.00 |
| TAPE CARTRIDGES (18 M BYTES, unformatted) | \$ 92.00 |

WORD PROCESSORS

INTRODUCTION

Do you need a word processing program for your IBM PC? If you write personal letters, newspaper articles, business correspondence, technical reports, manuals, business reports or even books, you need a word processing program. The right word processing program will save you time, money and effort.

What is a word processor? Basically, a word processor is a system that allows you to electronically create, revise and edit text. Several computer systems are available that are dedicated to word processing only. If you have an IBM Personal Computer, however, all you need is a word processing program to give you the same capabilities found in these word processing only systems.

Historically, documents have been generated with a typewriter. The document might have to be retyped several times before all of the errors have been removed and all editing completed. With a word processing program, however, you use your IBM PC display, keyboard and printer to do all of the editing and corrections. Your text is stored on disks, so any time you need to print another copy or update an old copy, you

simply recall the document from the disk. Since you NEVER have to retype a document again, you save countless hours and endless frustration.

SELECTING THE RIGHT WORD PROCESSOR

With over 30 word processing programs available for the IBM Personal Computer, selecting the one just right for your application can be a monumental task. Micro Match has taken all the guesswork out of making this decision. We have determined that there are only 4 major applications for word processing and have selected what we feel to be the best program for each application. The following table identifies each application and the recommended word processing program for that application.

Many word processing programs were evaluated to arrive at this list. The factors used to select the programs included how well the program performs, how easy the program is to learn and use and are all of the required functions present. Each of the programs selected are described in the following paragraphs.

| Application | Program | Manufacturer |
|------------------|-------------------------------------|---------------------|
| Business Office | Benchmark 3.0 | Metasoft |
| | Benchmark Mail List | Metasoft |
| Programmers | Edix+Wordix | Emerging Technology |
| Personal Use | Volkwriter | Lifetree |
| Foreign Language | Volkwriter International Edition | Lifetree |

BENCHMARK 3.0 (Metasoft)

Benchmark 3.0 is our recommendation for business applications. This program is the most powerful and flexible word processing program available for the IBM PC. It includes every feature required to generate any conceivable document that a business might require, yet is far easier to learn and use than any comparable program.

Benchmark 3.0 creates it's own directory for your documents. Each title can be up to 32 characters long and you can add the author's initials and the operator's initials. Each time you edit your text, the revision number is changed and, if you wish, you can save all or any earlier versions. Benchmark will handle documents up to 500 K bytes (250 pages) long (if you have enough disk space). You can also edit a long document in small pieces and then merge them all together to get the finished product.

The editing features of Benchmark 3.0 allow you to insert, delete, move or duplicate characters, words, phrases or entire blocks of text. You can also overtype to replace errors. You can also automatically replace one phrase with another if you wish. Headers and footnotes can be inserted and the pages will be automatically aligned to leave room.

All editing is performed by first moving the cursor to where the editing is to be performed. The cursor can be moved with the cursor positioning keys, by skipping lines, words, characters or pages up and down, or by searching for phrases in the text.

Several additional features are designed to save time and effort. The Rapid Form Fill-in lets you create an often used document as a form and then just enter the unique data each time you use it. The business graphics features

allow you to develop flow charts, bar charts, organizational charts, tables or simple boxes and include them with your documents. A built in calculator also lets you keep a running subtotal and total based on numbers read directly from the document. Editing can also be performed by columns, allowing you to easily add, delete, move and modify tabular data. Up to 52 different phrases of up to 2000 characters each can be defined by the operator, and any one of these may be inserted anywhere in your text with a simple 2 key command.

Printer controls include subscripts, superscripts, underlining, boldface type, overtyping, margin specification, up to 155 characters per line, automatic page numbering, multiple line spaces and the number of blank lines at the top and bottom of each page. A software driver is included for all of the popular printers, including, all Epson MX series, NEC 5500/7700, NEC 3500, NEC 8023, TI 810/820, Diablo 1610/1620/1640/1650, IBM Selectric and the Tandy daisy wheel.

Benchmark 3.0 is easy to learn and easy to use. All commands are displayed in screen menus with plain English. Also, the single key commands are logically designed to speed learning ("M" means move text, "I" means insert text, "E" means erase text, etc.). A complete reference manual, quick reference guide and function key overlay for the keyboard are included. About 8 hours are required to master Benchmark 3.0.

Benchmark 3.0 requires 128 K of memory, 1 disk drive and either PC DOS 1.1 or 2.0. 256 K of memory and 2 disk drives are recommended. Benchmark is also compatible with any hard disk drive that operates under PC DOS.

BENCHMARK 3.0 (Metasoft)\$335.00

BENCHMARK MAIL LIST (Metasoft)

The Benchmark Mail List was designed for ease of operation and high performance. With this program, you can maintain lists of clients, customers or any other type of list. Up to 14 data entries can be selected for each name, and any or all of the data entries can be used to merge with Benchmark 3.0 to generate custom designed letters.

Without Benchmark 3.0, the Benchmark Mail List is a complete list maintenance program. You can create, delete, and fully edit mail lists that you custom design for your application. Up to 99 different lists can be placed on each diskette, and lists can be merged together based on data contained in the list (including the time and date the entry was made).

Scanning can be slow or rapid, unused items can be deleted from each entry, and individual entries can be edited. User selectable print formats allow you to select which data from each entry will be printed and the exact format for the printing. Virtually every list maintenance feature is included.

Benchmark Mail List requires 128 K of memory and 1 disk drive.

BENCHMARK MAIL LIST (Metasoft)\$195.00

EDIX + WORDIX

(Emerging Technology Consultants, Inc.)

Edix + Wordix consists of two separate programs that form a complete word processing system for your IBM PC. Edix is a full screen text editor for creating and revising text. Wordix takes the text created with Edix and formats it for printing. By separating the editing and printing functions into 2 programs, you have total control of both operations. Both programs are required for the complete system.

Edix + Wordix is a powerful word processing program set. However, two unique features of Edix make these programs extremely valuable to programmers: Multiple file editing and multiple windows.

The multiple file editing capability of Edix lets you have up to 12 different text files (documents or programs) in memory at the same time. You can refer to and edit any of the 12 at the same time without having to store and retrieve them from the diskettes.

The multiple window feature allows you to simultaneously view up to 4 different parts of text on the screen. Usually, you edit 1 file at a time in 1 window (22 lines of 80 characters each). With the multiple window feature, you can split the screen horizontally or vertically to view 2, 3 or 4 files all at the same time. Any of the 12 files you are working on can be placed in any window. You can edit any of the 4 at any time, move or copy data from one file to another, reference one or more files while editing another file, or compare text between 2 or more different files, all at the same time. Each window scrolls horizontally so you can view the entire width of the text. These features are invaluable to programmers.

Edix includes all of the editing commands required to manipulate your text. Text is inserted and deleted from the cursor position. Lines can be deleted with a single key command, and the last 20 deleted lines are saved in memory. Text can be moved or copied between buffers and windows. The cursor is controlled by moving up, down, right, left, to the beginning or end of the current line, to the beginning or end of the text and by horizontal or vertical scrolling. All cursor movements are performed with a single keystroke. You can also search for text based on either exact or partially defined strings.

Status messages keep you informed of which files are currently being displayed, which files are in memory, how big each file is, and the modification state of each file. Each file can be up to 25 pages of text (50 K bytes).

Edix includes 30 interactive lessons to help learn all of its features. There are 29 different commands, and up to 10 of the most frequently used commands can be assigned to keys for single key operation. An on-line help menu will can be displayed and extensive prompting is used.

Wordix adds 25 formatting commands to control your printer. You specify justification, centering, margin placement, line length, spacing, page length, offset, headers and footnotes. In line controls are included for boldface, underlining, subscripts, superscripts and overstriking.

A macro application package is included for letters, form letters, labels, envelopes, and dramatic scripts. The MEMO package includes commands for multi-column page formats, automatic table of contents, and automatically numbered sections. The printer control features are specified by the user so that ANY printer can be used with Edix + Wordix. All files are fully compatible with IBM PC DOS so that files generated by any other IBM PC DOS compatible program will be compatible with Edix + Wordix (such as compilers, the assembler, data base managers, spelling checkers, etc.).

Edix + Wordix is compatible with DOS 1.1 or DOS 2.0 and requires 128 K and 1 disk drive. 192 K and 2 disk drives are recommended.

EDIX\$159.00
WORDIX\$159.00
EDIX + WORDIX (both)\$295.00

VOLKSWRITER 1.2

(Lifetree Software, Inc.)

Volkswriter 1.2 is our choice for the personal user. Volkswriter is the easiest to learn and the easiest to use wordprocessor available. This program is screen oriented, so that what you see on the screen is what you get when you print. All editing functions are done by moving the cursor (with the cursor control keys) to where you want to edit and then simply pressing a single function key (or the alt key with a function key) to perform the desired editing function.

The on screen menu (which you can turn on and off) describes each of the Volkswriter commands. An on screen tutorial is included to help you learn how to use the program and the manual provides extensive reference material and a comprehensive index.

Volkswriter's editing features allow you to insert text (any amount), delete characters, words, lines or blocks, move or copy blocks of text, search for or replace phrases and insert other text files into the file being edited. The cursor is controlled with the cursor control keys, the page up and down keys, the home key, the end key and the horizontal tab key. The horizontal tabs position are defined by the operator.

Volkswriter 1.2 includes drivers for the following popular printers: Epson MX series, Smith Corona TP-1, Brother HR-1, NEC Spinwriters, NEC 8023, NEC 3550, Prowriter, Diablo 630, Qume Sprint, Okidata 84 and the F-10 Starwriter. For any of these printers, you can define the page and line size, the number of lines per inch, the number of blank lines at the top and bottom of the page, the number of spaces between lines and the left margin position.

Word Processors & Spreadsheets

When you purchase Volkswriter 1.2, you get both the 64 K and the 128 K versions. The 64 K version requires 64 K of memory and the 128 version requires 128 K of memory. Both versions require 1 disk drive but 2 are recommended. Both are compatible with either DOS 1.1 or DOS 2.0. The 128 K version will handle documents up to about 32 pages.

VOLKSWRITER 1.2 (Litetree)\$135.00

VOLKSWRITER INTERNATIONAL EDITION (Litree Software, Inc.)

The international version of Volkswriter is ideal for people and organizations who need to write in more than one language or who create and edit engineering or scientific documents.

The IBM PC Monochrome Display Adapter and Color/Graphics Display Adapter have the ability to display many of the European text characters and general mathematical symbols. Volkswriter International Edition takes advantage of these symbols and allows you to include them in your text. All of the symbols required for French, German, Spanish and the King's English are included. Also, you can edit mathematical manuscripts and display equations right on the screen.

This program accomplishes this by allowing the user to redefine the keyboard by a process called mapping. You simply define a map that tells which keys will be used for which symbols, and when you press the key, you get the symbol. This feature also allows you to redefine the entire keyboard, so you can have the Dvorak or any other keyboard arrangement you want.

The same type of mapping allows you to modify the

printer driver for printing these special symbols. These printer translation tables allow for up to 3 characters to be combined to create the special characters. Also, the tables can be created for daisy wheel or thimble printers where you simply change the printing mechanism to get the special symbols. Printer applications packages are available for the NEC 3510, NEC 3550 and Diablo 630 to save you the time and effort of making your own table.

All of the editing features of Volkswriter 1.2 are also included with Volkswriter International (see description above).

VOLKSWRITER INTERNATIONAL EDITION\$175.00

VOLKSWRITER INTERNATIONAL PRINTER APPLICATIONS PACKAGES:

NEC 3510\$89.00
NEC 3550\$89.00
DIABLO 630\$89.00

Micro Match recommends the above word processing programs for most applications. We also carry, however, the following popular programs.

EASY SPELLER (Information Unlimited)\$ 89.00
EASY WRITER II (Information Unlimited)239.00
SELECT WORD PROCESSING SYSTEM (Select)365.00
VERSATEXT (Texasoft)109.00
VISIPELL (Visicorp)167.00
VISIWORD (Visicorp)275.00
VISIWORD/VISIPELL (Visicorp)445.00
WORDSTAR (MicroPro)279.00
WORDSTAR/MAILMERGE (MicroPro)359.00
WORDSTAR/PELLSTAR (MicroPro)399.00
WRITE ON (Datamost)95.00

SPREADSHEET PROGRAMS

Spreadsheets are the most popular of all programs for personal computers. These useful tools enable you to make a tabular model of data and then display the effect on the model when the data is changed. Some spreadsheet programs even allow you to use pie and bar charts to graphically display your model. Typical applications include investment analysis, retirement fund planning, cash flow projections, engineering and scientific analysis, budget planning and even project planning.

Data in a spreadsheet program is placed in a number of cells that are arranged into horizontal rows and vertical columns. The data in each cell can be numbers, labels or formulas. The formula feature is what gives the spreadsheet programs their versatility. With it, you can use data in some cells as a basis for determining what information will be displayed in other cells. By extending the process and using cells with formulas as data for other cells with formulas, you can easily make a model of even the most complicated problems. After the model is finished, you can observe what happens to the model when you make small changes in the data.

Here's a simple example. Suppose you use the spreadsheet program to determine the long term growth of an investment. One cell would be the initial investment. Another cell might be the value of the investment after 1 year (based on a known interest rate). A third cell could be used for adding more principle in the second year. A fourth cell could then be the value after the second year. This process can be extended for almost any number of years, with the final cell being the total value when the investment is cashed in. You can use the spreadsheet to see the effect on the final value (or the value at any time) when you change the amount you invest during any year. This process can be extended to include withdrawals,

changing interest, fees paid or any other factor that would change the value of the investment.

The row and column format make it convenient to organize the data in the spreadsheet. For example, you could label each column as a different month of a year. Then, each row could be information associated with each month (gross sales, commissions, advertising costs, manufacturing costs, overhead, operating expenses, net income, taxes, etc.). A quick look at the spreadsheet can tell you a lot about how your business is performing.

Micro Match carries all of the popular spreadsheet programs for the IBM PC. Some manufacturers offer additional programs to add to the utility of the spreadsheet, and Lotus 123 includes sophisticated data handling and graphics with the spreadsheet. The following list indicates the price for each of these programs.

LOTUS

123 (Spreadsheet, data base manager, graphics, 256 K required)\$335.00

MICROPRO

Calcstar (Spreadsheet, 160 K required)\$125.00

MICROSOFT

Multiplan (Spreadsheet, 128 K required)\$175.00

SORCIM

Supercalc (Spreadsheet, 64 K required)\$145.00
Supercalc 2 (Advanced spreadsheet, 64 K req.)245.00

VISICORP

Visicalc 512 (Spreadsheet, 64 K required)\$167.00
Visitrend/Visiplot (Trendplotting)199.00

Accounting & Data Base Management

ACCOUNTING

Accounting software packages are designed to organize your financial data and save you time and money. These programs fall into 3 general categories: Business accounting packages, personal accounting packages and real estate investment packages.

The business accounting packages for the IBM PC are designed to handle all the needs of the small and medium businesses. Packages are available to keep track of accounts payable (AP), accounts receivable (AR), general ledger (GL), payroll (PR) and inventory control (IC). All of these add up to almost having a CPA in your IBM PC. See our separate listing for tax preparation software.

The personal accounting packages are designed to handle the needs of the individual. They give you the convenience of an electronic checkbook, budgeting, credit card management and in some cases, investment strategy planning.

The real estate investment packages are designed to control all of your investment finances. Monthly rentals, repairs and maintenance are included in the financial controls.

The business accounting, personal accounting and real estate investment programs available from Micro Match are:

BPI SYSTEMS

Personal Accounting \$235.00

CONTINENTAL SOFTWARE

Home Accounting Plus (Personal) \$95.00
Property Management 315.00

DATAMOST

Real Estate Investment Program \$95.00

EAGLE SOFTWARE

Money Decisions I (Personal) \$125.00
Money Decisions II (Personal) 155.00
Both packages together 259.00

HOWARD SOFTWARE

Real Estate Analyzer \$167.00

INFORMATION UNLIMITED

Accounts Payable \$369.00
Accounts Receivable 369.00
Accounts General Ledger 369.00
Financial Management Package (AP/AR/GL) 950.00
Inventory Control 369.00
Order Entry 369.00
Payroll 369.00

PBL

Personal Investor \$109.00

PEACHTREE

Peachpak (Business, AR/AP/GL) \$245.00

T & F

PMP (Property Management Program) \$149.00

DATA BASE MANAGERS

Data base management programs are programs that let you handle all kinds of different information. Initially, you describe the type of data you will be handling. Then, you define commands that determine how you want to handle the data. After that, you simply enter the data and use the commands you define to manipulate the data.

The possible applications of data base managers is almost unlimited. Some common applications include accounting, inventory control, scheduling, mail list control and calendar events. With the right data base manager, you can design the data handling for the specific application. For accounts receivable, for example, you can design for general purpose use, legal use, medical use or any other specific application. You can also custom design the outputs so that pre-printed forms can be used with the printer (which is useful for check writing, among other things).

The following list indicates the database programs available from Micro Match.

ASHTON-TATE

dBASE II (128 K memory req'd) \$425.00
Bottom Line Strategist 256.00

CONDOR 3 DATA BASE SYSTEM

Condor 3 is a complete, comprehensive, easy to learn and easy to use data base system. No additional programs are required to create, modify and manage your data. All commands are in English — you don't have to be a programmer to use Condor 3. Screen and printer outputs are automatically formatted and you can include your own help messages so your data base is easier to use. A built in assembly language interpreter is included so your data base manager runs fast. Condor 3 is fully relational and provides transaction processing and statistical routines for accounting applications.

Condor 3 requires 128 K RAM and 1 disk drive.

CONDOR 3 (Data base manager) \$425.00

FOX&GELLER

Quick Code (dBASE II support) \$205.00
dGRAPH (Available 7.83) 205.00

LOTUS

123 \$335.00

MICRO PRO

Infobar \$355.00

Diagnostic, Utility & Operating Systems.

DIAGNOSTIC AND UTILITY PROGRAMS

MM SW-64 MEMORY TEST PROGRAM (Micro Match)

This memory test program will examine any memory in your IBM PC (except for the first 64 K). The program tests every memory component in your IBM PC and determines how well the memory components are performing.

The program is easy to use and includes a complete manual (on the diskette) to help you find any bad memory chips. A complete log of all tests can be printed so you can run the tests unattended. This program will find over 90% of all expansion memory problems.

PC DOS 1.1 or 2.0 with disk BASIC and 64 K memory are required.

MM SW-64 \$24.95

NORTON UTILITIES

The Norton Utilities are disk based programs that let you examine the status of your floppy diskettes. These utilities give you access to all of the information available on your diskettes. The menu driven files are easy to use and keep track of every operation.

Files that are erased, hidden or placed as SYSTEM can easily be retrieved and used. Data can be read from files and displayed on your display as characters, modified, and then replaced on the diskette.

PC DOS and 64 K of memory are required to utilize all of the Norton Utility programs.

NORTON UTILITIES \$59.95

8087 NUMERIC DATA PROCESSOR PRODUCTS

Micro Match has the tools you need to develop software for the high speed arithmetic features of the Intel 8087. The 8087 plugs right into the IBM PC (and PC-XT) system board to give you powerful mathematical functions at the machine level.

For assembly programmers, we have the Seattle Computer 8086/8087/8088 Assembler. As well as supporting all of these Intel components, this assembler will translate any program written in Zilog Z80 assembly code into 8086/8088 machine instructions. This means that any Z80 assembly program can be run in the IBM PC.

For compiled BASIC programs, we have the Seattle Computer Basic Run-time routine package. This package replaces the IBM PC BASIC Compiler Run-time library with 8087 based arithmetic and speeds up programs by an average of 25 times. Also included are extensions to the IBM PC Macro Assembler for the 8087. The 8087 component is an optional feature of this package.

The 8087 component is also available without any software. Every 8087 purchase includes the Intel IAPX 86/88 USER'S MANUAL, which describes the 8086, 8087, 8088 and support components in detail.

SEATTLE COMPUTER

8086/8087/8088 ASSEMBLER (WITH Z80 TRANSLATOR)
..... \$109.00
8087 BASIC COMPILER PACKAGE (with 8087) 280.00
8087 BASIC COMPILER PACKAGE (without 8087) 139.00
8087 COMPONENT 235.00

JFORMAT AND JET DRIVE (Tall Tree Systems)

Jformat and Jet Drive are powerful additions to IBM PC DOS (Jformat is for DOS 1.1 and Jet Drive is for DOS 2.0). These programs add an electronic disk capability to DOS that considerably increases the PC data transfer speed.

With these programs, you can set aside portions of memory to be used as electronic disks. By simply copying often used programs or files to memory, the access time is significantly reduced (no more waiting for the floppy disk to find your data!). To be effectively used, these electronic disk programs require enough memory for both DOS and the disk files you want to store in memory (a minimum of 256 K is recommended).

JFORMAT also includes the ability to modify the formatting of your floppy diskettes to get as much as 400 K bytes from each drive. Control software for several popular Winchester disk systems are also included.

JFORMAT (for DOS 1.1) \$40.00
JET DRIVE (For DOS 2.0) 35.00

FILING SYSTEMS

Filing system software lets you use your IBM PC to keep track of all of your filing needs. You can store information for memos, letters, inventory, recipes and almost any other data that comes to mind with these filing system programs. Check the following list to find the filing system you're looking for.

CAXTON SOFTWARE
Card Box \$162.00
SOFTWARE PUBLISHING
PFS:FILE \$39.00
SYNAPSE SOFTWARE
File Manager \$105.00

OPERATING SYSTEMS AND PROGRAMMING LANGUAGES

Although IBM PC DOS is the preferred operating system for the IBM PC, there are literally thousands of programs written to run with and thousand of users familiar with the CP/M operating system. Programming languages available for the IBM PC include compiled Basic, Pascal and C. For all of these applications, Micro Match carries the entire line of Digital Research and Microsoft software products.

DIGITAL RESEARCH
CP/M 85 \$52.00
Concurrent CP/M 85 (Multitasking) 249.00
CBASIC 86 149.00
Pascal/MT + 85 285.00
CIS COBOL 85 595.00
Speed Programming Package 85 155.00

MICROSOFT
MICROSOFT Pascal Compiler \$259.00
MICROSOFT C Compiler 359.00
MICROSOFT Basic Compiler 285.00
MICROSOFT Business Basic Compiler 410.00

MAIL LIST PROGRAMS

Mail list software is a special kind of data base manager that is designed to specifically handle lists of names, addresses, phone numbers and other mailing functions. Mail lists programs are used for business advertising, club announcements, newsletter publications, seasonal greeting cards or any application where many names have to be stored.

Mail lists will generally allow you to store a number of different categories for each entry. The categories are name, company name, street address, city, state, zip, phone and a sorting code. The sorting code can be used to identify different groups within each of your mail lists so you can selectively identify different groups within your mail lists.

Some mail lists allow you to merge the mail list with text created by a word processor. This feature lets you create your text once and then print custom letters for each person on the mail list.

Different mail list programs will handle different size mail lists, so choose one that will handle your biggest mail list. Also, your disk storage capability will limit the number of names you can put on each list. For example, the maximum number of names that can be placed on a double sided double density floppy disk drive is about 2000. For larger mail lists, a hard disk drive is strongly recommended.

If you require a custom mail list for your application, you should consider a data base management program (see the data base section of this catalog). A data base program lets you design your own mail list to handle any type of list (not just mail lists).

Many manufacturers of word processing programs offer mail list programs compatible with their word processors. Contact Micro Match for details on these programs. The mail list only programs available from Micro Match are described below.

EZ LABEL + (Systemics)

EZ Label + is an easy to use mail list program that allows you to store up to 1000 names and addresses on one single sided diskette. Clear screen prompts are used to assist in entering data, repeated data can be reentered with a single key and unused fields can be automatically skipped. Each entry includes name, company name, address (with 5 or 9 digit zip), telephone number and up to 5 user defined sorting codes.

Data in the mail list can be sorted by zip code, name or on any sort code. You can either print mailing labels (on standard 15/16" X 3 1/2" labels) or telephone lists. Complete instructions are included.

EZ Label requires 2 disk drives, 64 K memory, PC DOS, a monochrome display and an IBM dot matrix printer (or equivalent).

EZ LABEL + (Systemics) \$39.95

1st CLASS MAIL (Continental Software)

First Class Mail is really a data listing program - mail lists are only 1 of the types of lists you can control. Up to 10 different categories can be stored for each entry and you can assign any label to any category. You can sort the list on any one of the categories, print labels with any format you want, and print labels on any kind of printer.

Each double sided diskette can have up to 1500 entries, any 1 list can have up to 25,000 entries and up to 20 lists can be combined into a "system". For large lists, a hard disk system is recommended.

First Class Mail requires 1 disk drive, 64 K memory and any printer.

1st CLASS MAIL (Continental Software) \$82.00

TAX PREPARATION SOFTWARE

Tax preparation software packages are designed to help you prepare your income taxes. Some of the features available in these packages include personal taxes, business taxes and automatic printing. The printing feature allows you to prepare your taxes with the IBM PC and then just insert the proper form into your printer. The PC then enters all the data onto the form.

Micro Match carries the following tax preparation software programs.

ELECTRONIC DATA SYSTEMS

Personal Tax Planner \$37.50

HOWARD SOFTWARE

Tax Preparer 1983 (Federal taxes) \$167.00

Tax Preparer 1983 (California state taxes) 70.00

MICRO LAB

Tax Manager \$179.00

T.M.Q.

File Tax \$130.00

TRAINING AIDS

The IBM Personal Computer is a powerful tool for general business, the personal user, and business executives. Like any other tool, however, the first time user requires some training to master all of the machine's capabilities. You don't have to be a computer expert and there is no magic involved. If you are a first time user, one of the following instructional programs is just what you need to put the IBM PC to work for you.

COMPREHENSIVE SOFTWARE

PC Tutor \$62.95

PC Pal 62.95

INDIVIDUAL SOFTWARE

The Instructor \$62.95

TAKE A BREAK!!!

These games are just what you need.

We have divided our games into 3 categories to help you find the games just right for you. These categories are: Action/arcade, educational and strategy.

Many of our games are described in the following paragraphs. The descriptions include a rundown on how the game plays, whether it's action/arcade, educational, or strategy, and the hardware and software your IBM PC needs to play the game. The action/arcade games are described first, then the educational games, then the strategy, and finally the games we didn't have time to describe in the catalog but do carry.

Some games will operate with either the keyboard or a joystick. See the joystick section of our catalog for more information on joysticks. The games requiring PC DOS will operate with either PC DOS 1.0 or PC DOS 1.1 unless otherwise stated. Those games that require the color display adapter do not require a color monitor but may be difficult to play without color.

The games we currently carry in each category are:

ACTION/ARCADE

CHOMP
CROSSFIRE
FLIGHT SIMULATOR
FUN 10
NOVATRON
QUEEN OF HEARTS
SET THE HOSTAGES FREE
SHULTZ'S TREASURE
SPACE STRIKE
SPYDER
SQUIRM
TACHYON
TREASURE HUNT
TRILOGY

STRATEGY

DEADLINE
EXECUTIVE SUITE
HIDE AND SEEK
MICROCOSM
MILKY WAY MERCHANT
MILLIONAIRE
STARGROSS
ULYSSES
WORDTRIX
ZORK I
ZORK II
ZORK III

EDUCATIONAL

DELTA DRAWING
FACEMAKER
RHYMES & RIDDLES
SNOOPER TROOPS I
SNOOPER TROOPS II
STORY MACHINE

ACTION/ARCADE

CHOMP

CHOMP is a pac man style game that gives you the option of 4 different mazes. You control a happy face character while trying to gobble up all the dots in the maze and avoid the bad guys until you get to a power cell. Each time you clear the maze of dots, the game gets faster and the scores are worth more points. Sound is included (sound can be turned off) and the TOP TEN scores are saved on disk.

CHOMP requires 64K memory, 1 disk drive, and a color or monochrome display with either 40 or 80 columns. A joystick is not required but makes the game even more exciting.

CHOMP (Ensign Software)\$22.95

CROSSFIRE

This fast action game sends aliens at you from 3 different directions on a grid laid out like a city. You can move anywhere, but watch out — you can be fired on from anywhere too. Each time you hit an alien, it gets meaner and faster, until either you hit it 4 times or it gets you.

CROSSFIRE requires 48K memory, 1 disk drive and the color graphics adapter with either a color or black & white monitor.

CROSSFIRE (Sierra On-Line)\$24.95

FLIGHT SIMULATOR

If flying your IBM PC got any more realistic, you'd need a license. FLIGHT SIMULATOR gives you complete control of a Cessna 182 (flaps, ailerons, rudder, throttle, etc.). You can navigate by sight or by instruments with the complete instrument panel. 20 different airports are included in the game, so you have plenty of airspace. Once you've mastered the controls, you can try your hand as a "British Ace" in World War I.

FLIGHT SIMULATOR requires 64K memory, 1 disk drive and the color display adapter with either a color or black & white monitor.

FLIGHT SIMULATOR (Microsoft)\$37.95

FUN 10

This great package includes 10 games for your IBM PC. The games are CUBIC (tic tac toe, 4 in a row), REVERSAL (strategic maneuvering), KINGDOM (peasants & knights), CRIBBAGE (against the PC), BLACK BOX (mystery with ray guns), SPACE-TREK (wipe out Klingons), BLACK JACK (Las Vegas style), MASTER MIND (guess the code), AMERICAN QUIZ (learn facts about famous people), and PRESIDENTS QUIZ (learn facts about U.S. presidents).

FUN 10 requires 48K memory, 1 disk drive, PC DOS and either the color or monochrome display adapter and display.

FUN 10 (Ensign Software)\$29.95

NOVATRON

NOVATRON might just be the ultimate test of hand-eye skill. Using the keyboard, you build a wall in a race to close off the computer's escape routes while the computer does the same thing to you. NOVATRON plays at 3 levels: Beginners, average joes, and suicidal. The 3 simulated dimensional graphics are great! The sound adds to the enjoyment (sound may be turned off).

NOVATRON requires 64K memory, 1 disk drive, PC DOS and the color display adapter with either a color or black & white monitor.

NOVATRON (Softcraft)\$26.95

QUEEN OF HEARTS

This is a maze game that uses either the keyboard or a joystick. Your job, if you choose to do it, is to work your way through the maze while avoiding the crazy cardsharks. If you get the trump card, though, you can turn the tables on the cardsharks.

QUEEN OF HEARTS requires 64K memory, 1 disk drive, either the color or monochrome display with 40 or 80 columns, and PC DOS.

QUEEN OF HEARTS (Texasoft)\$26.95



SET THE HOSTAGES FREE

Ninety hostages are held in a prison! Three heroes have been sent to their rescue. The prison wall is 3 layers thick and each hero has 15 rounds of ammo. Your task is to use the heroes to break through the wall by shooting through a moving hole in the wall. But beware!! There are menacing guards somewhere outside the prison wall who will try to stop you.

SET THE HOSTAGES FREE requires 64K memory, 1 disk drive, a monochrome display & adapter and PC DOS.

SET THE HOSTAGES FREE (Texasoft)\$26.95

SHULTZ'S TREASURE

This high quality graphics adventure includes 3 dimensional color and uses no text inputs. Every time the game is started, a new layout is used (over 10,000 possible). The player enters a future world where the Lost Dutchman's Gold Mine has been discovered but the mother lode never found. The object is to enter the mine and, using the equipment you carry and others you find in the mine, locate the mother lode and return without being killed.

SHULTZ'S TREASURE requires 64K memory, PC DOS 1.1, 1 disk drive and the color display adapter (color monitor recommended). A joystick is not required but will enhance the game.

SHULTZ'S TREASURE (Verisoft Works)\$29.95

SPACE STRIKE

SPACE STRIKE is an exciting shoot-em-up. You are the welcoming committee from Earth to a new race of aliens, but you soon discover that they believe the only good earthling is a dead earthling. You and your PC are the only protection our planet has.

SPACE STRIKE requires 64K memory, 1 disk drive and the color display adapter with either a color or black & white display.

SPACE STRIKE (Datamost)\$22.95

SPYDER

This fast moving arcade game turns your PC into a cave infested with web spinning spiders. You can cut them down with your laser sword or stomp them when they bounce your way. You've got to keep moving, though, or you'll be caught in their entangling web.

SPYDER requires 64K memory, 1 disk drive and a color display adapter with either a color or black and white monitor.

SPYDER (Mirror Images Software)\$29.95

SQUIRM

Somewhere in the dark jungles of Columbia is an ancient treasure protected by a band of ghosts. You must search and collect as many diamonds as you can while avoiding the ghosts. The more diamonds you collect, the more you have to squirm to avoid the ghosts.

SQUIRM requires 64K memory, 1 disk drive, and either the color display or the monochrome display.

SQUIRM (Texasoft)\$26.95

TACHYON

TACHYON puts you in the captain's chair of the star cruiser Avenger. Your mission is to destroy the remnants of the Gaylor fleet. Your ship is equipped with scanners, lasers, energy shields and computer driven torpedoes. You traverse the galaxy quadrant by quadrant trying to blast the enemy before he blasts you. When you run low on energy, you have to find a refueling base or it's all over!

TACHYON requires 64K memory, 1 double sided disk drive, PC DOS 1.1 and the color display adapter with either a color or black and white monitor.

TACHYON (Mirror Images Software)\$29.95

TREASURE HUNT

In this fast action game, you roam through the halls, rooms and chambers of a mansion in search of 10 treasures left by previous occupants. All graphics are in 3 dimensional perspective. Your race is against the clock to see how quickly you can find and collect the treasures.

TREASURE HUNT requires 64K memory, 1 disk drive and a color graphics adapter & either a color or black and white monitor.

TREASURE HUNT (Ensign Software)\$24.95

TRILOGY

TRILOGY is really a 3 game combination of action and adventure. You are taken to a time when dwarfs and orcs fought over lost treasure, Hobbits found adventure, and dragons ruled the sky. You seek out magic (if you dare) in the dragon's cave, save a village from destruction, and lead

the dwarfish army against the horrible orcs. Sound and music accompany the play.

TRILOGY requires 64K memory, PC DOS, 1 disk drive and the monochrome display.

TRILOGY (Texasoft)\$26.95

STRATEGY

DEADLINE

DEADLINE is a murder mystery game where you become the chief of detectives. You have 12 hours to find the murderer of Mr. Marshall Robner. You have an actual dossier on the crime and must piece together the clues. Hazards abound from treacherous personalities, so watch out!

DEADLINE requires 48K memory, 1 disk drive, PC DOS and the monochrome display and adapter.

DEADLINE (Infocom)\$41.95

EXECUTIVE SUITE

This game is a great diversion for executives and professionals using the IBM PC. Starting with the initial interview, you work your way from the ground floor, through middle management and if you play your cards right, into the Executive Suite.

EXECUTIVE SUITE requires 64K memory, 1 disk drive and the monochrome display and adapter.

EXECUTIVE SUITE (Armonk)\$29.95

HIDE AND SEEK

HIDE AND SEEK is naval warfare at it's best. You command an ocean full of subs, destroyers, cruisers and PT boats armed with guns and missiles. Your enemy (the computer) has an armada of equal strength. You must aim carefully and consistently to win the war. One ship and your vessels go up in smoke. Once you get the hang of it, there are 3 more levels of difficulty to keep you on your toes.

HIDE AND SEEK requires 64K memory, 1 disk drive and the color display adapter with either a color or black & white monitor.

HIDE AND SEEK (Mirror Images Software)\$22.95

MICROCOSM

This game is an enhanced version of the game of life. The laws of survival are used to control the growth and death of the population YOU define. 50 standard populations are also included. Either 1 or 2 players are allowed. With 2 players, you can create either conflicting populations or entirely separate populations.

MICROCOSM requires 64K memory, 1 disk drive, PC DOS, and either the color or monochrome display with adapter.

MICROCOSM (Aeon Concepts)\$29.95

MILKY WAY MERCHANT

MILKY WAY MERCHANT takes you through the solar system in an attempt to establish trade. You are given an interplanetary trading vessel and starting capital and must find your way from planet to planet. This text oriented strategy game will give you and your family hours of fun.

MILKY WAY MERCHANT requires 64K memory, 1 disk drive and either the color or monochrome display and adapter.

MILKY WAY MERCHANT\$23.95

MILLIONAIRE

This is your no-risk adventure into the stock market. Starting with \$10,000, you buy and sell stocks, call options, borrow against your net worth and buy on margin. This "game" is used for training by some of the largest investment houses!

MILLIONAIRE requires 64K memory, 1 disk drive, PC DOS and the monochrome display and adapter.

MILLIONAIRE (Blue Chip Software)\$72.95

STARCROSS

The year is 2186. Mankind has inhabited the Moon, Mars and the larger asteroids. As you search for BLACK HOLES to harness their energy, mass detectors sound off, alerting you of a huge alien ship approaching and launching you into unexpected adventure.

STARCROSS requires 48K memory, 1 disk drive, PC DOS and the monochrome display and adapter.

STARCROSS (Infocom)\$29.95

ULYSSES

Do you have what it takes to become a hero? Find out as you become Ulysses and cast off in search of the golden fleece. This is a real color graphics strategy game that lets you experience, in living color, the beasts and beings of the Ulysses tale.

ULYSSES requires 48K memory, 1 disk drive and a color/graphics display adapter with either a color or black & white monitor.

ULYSSES (Sierra On-Line)\$29.95

WORDTRIX

WORDTRIX is a word and letter game that pits you against the computer or an opponent. You are given 16 scrambled letters in each round of the game with the object of forming as many 3, 4, 5 and 6 letter words as possible within the 3 minute limit. When you play against the computer, you can select 6 levels of difficulty. The computer forms it's words from a 2,000 word dictionary, and the higher the level, the faster the computer forms it's words.

WORDTRIX requires 64K memory, 1 disk drive, and the monochrome display and adapter.

WORDTRIX (Inssoft)\$26.95

ZORK I

ZORK I is the first of 3 games in the ZORK great underground adventure/strategy series. In ZORK I, your object is to discover and retrieve the 20 treasures of ZORK (and escape with your life). You talk to the computer using complete sentences. Your score and move number are displayed during the play to help you keep track.

ZORK I requires 48K memory, 1 disk drive and the monochrome display and adapter.

ZORK I (Infocom)\$29.95

ZORK II

ZORK II is the second of the 3 ZORK adventures. In this game, you travel through the land ruled by the Wizard of Frobozz, attempting to explore the land and find the fabulous treasures. But watch out for the exotic creatures and diabolical puzzles. Your score and move number are displayed to help you keep track.

ZORK II requires 48K memory, 1 disk drive and the monochrome display and adapter.

ZORK II (Infocom)\$29.95

ZORK III

ZORK III is the third of the 3 ZORK adventures. This is the final test of your courage and wisdom. Your odyssey ends in an encounter with the Dungeon Master himself, and your destiny hangs in the balance.

ZORK III requires 48K memory, 1 disk drive and the monochrome display and adapter.

ZORK III (Infocom)\$29.95

EDUCATIONAL

DELTA DRAWING

This program lets children have fun drawing and coloring while learning computer programming. Your child starts by drawing with simple single key commands. The program records these key strokes as text. Then, with another key stroke, the children see the text and design drawing in a text mode. This helps the child learn the procedural thought process required for programming.

Suggested ages: 4 to 14

DELTA DRAWING requires 64K memory, 1 disk drive, and the color display adapter with either a color or black & white monitor.

DELTA DRAWING (Spinnaker)\$44.95

FACEMAKER

FACEMAKER is a fun to play game with three parts. In the first part, the child is asked to complete a blank face by selecting from sets of eyes, ears, noses, etc. In the second part, the child makes the face smile, wink, frown or wiggle it's ear. In the third part, the child is asked to repeat the sequence of faces seen. Full color and sound included.

Suggested ages: 4 to 8

FACEMAKER requires 64K memory, 1 disk drive and the color display adapter with either a color or black & white monitor.

FACEMAKER (Spinnaker)\$26.95

RHYMES AND RIDDLES

RHYMES AND RIDDLES has 3 parts: Jokes and Riddles, Nursery Rhymes and Famous Sayings. In Jokes and Riddles, the child is asked to complete a joke or riddle posed by the game (over 100 in all). In Nursery Rhymes, the child is asked to fill in blanks for famous nursery rhymes. When the rhyme is complete, the rhyme is graphically displayed with color and sound. In Famous Sayings, the child is asked to complete a famous saying. Correct answers are rewarded with color graphics and sound.

Suggested ages: 5 to 10

RHYMES AND RIDDLES requires 64K memory, 1 disk drive, and the color display adapter with either a color or black & white monitor.

RHYMES AND RIDDLES (Spinnaker)\$23.95

SNOOPER TROOPS CASE I

The case of the Granite Point Ghost. Someone is trying to scare the Kim family out of their new home. But who? And why? It's your job as a snooper trooper to find out. This game offers children an exciting challenge while they increase their reasoning ability and their vocabulary. They learn to take notes, draw and read maps, and classify and organize data. This game features full color and sound.

Suggested ages: 10 to adult

SNOOPER TROOPS CASE I requires 64K memory, 1 disk drive and the color display adapter with either a color or black & white monitor.

SNOOPER TROOPS CASE I (Spinnaker)\$34.95

Games & Technical Literature

SNOOPER TROOPS CASE II

The case of the Disappearing Dolphin. Someone stole Lily the Dolphin from Tobasco Aquarium. It's your job as a snooper trooper to discover who and why. This game is designed to increase vocabulary and reasoning ability and also to draw and read maps. Color and sound are included to enhance this exciting game.

Suggested ages: 10 to adult

SNOOPER TROOPS CASE II requires 64K memory, 1 disk drive and the color display adapter with either a color or black & white monitor.

SNOOPER TROOPS CASE II (Spinnaker)\$34.95

STORY MACHINE

With this game, your child learns how to write sentences, paragraphs and simple stories. The program supplies the child with a set of nouns, verbs, prepositions, etc. When your child enters a complete sentence such as "The boy walks to the tree", the screen comes to life and a boy walks to a tree! This program uses color and sound.

Suggested ages: 5 to 9

STORY MACHINE requires 64K memory, 1 disk drive and the color display adapter with either a color or black & white monitor.

STORY MACHINE (Spinnaker)\$26.95

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BOOKS AND LITERATURE

PROGRAMMING INFORMATION

INTRODUCTION TO ASM 86 (Intel)

This book describes the fundamentals of ASM 86, Intel's assembly language for the 8086 and 8088 microprocessor. If you're programming the IBM PC in assembly language, then this book is an invaluable aid.

This book is directed to using the Macro Assembler, not the instruction set for the 8088 and 8086. It explains segmentation, procedures, macros, data types and all of the assembler directives. Used with the macro assembler manual, you have a 2 book set that covers the entire field of assembly programming.

INTRODUCTION TO ASM 86 (Intel)\$13.95

COMPONENT DATA

THE IAPX 86, 88 USER'S MANUAL

The IBM PC is designed and built around microcomputer components manufactured by Intel. This manual gives detailed descriptions and programming information on many of the chips used in the PC. Included are the 8087 and 8088 processors, the 8259 interrupt controller, and several of the bus control components. Information is also included on PASCAL, FORTRAN and PL/M languages as used on Intel development systems. This book is an invaluable aid for the IBM PC system programmer.

IAPX 86, 88 USER'S MANUAL (Intel)\$15.95

IAPX 86 BOOK

The IAPX 86 book describes the micro processor used in the IBM PC — the Intel 8088. Included are descriptions of the features, instruction set and architecture of this 8 bit microprocessor, as well as application examples.

IAPX 86 BOOK (Intel)\$12.95

PERIPHERAL DESIGN HANDBOOK

This book describes some of the major system components used in the IBM PC as well as other Intel peripheral components. Included are memory, serial, keyboard, display and floppy disk controller components, as well as examples describing how to use them.

PERIPHERAL DESIGN HANDBOOK (Intel)\$10.95

COMPONENT DATA CATALOG

Your reference library is not complete without the Component Data Catalog. This book contains descriptions on every data component manufactured by Intel. Included are memory components, microprocessors, peripherals, communications and controller hardware. Details on the entire Intel line of consumer, automotive, industrial and military components are included. Over 1350 pages of component data will keep you up to date.

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